

City of Hattiesburg, MS

*200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401*



Meeting Agenda - Final

Tuesday, September 5, 2017

4:00 PM

Council Chambers

City Council

I. Call to Order**II. Call to Prayer and Pledge of Allegiance****III. Agenda Order****IV. Approval of Minutes for the August 4, 7, 8, 15, 21, 22, 23 and 31, 2017, City Council meetings.****V. PRESENTATION AGENDA****VI. POLICY AGENDA**

- VI.-1** [2017-699](#) Adopt a Resolution authorizing Disbursement No. 19 from the Project Fund Escrow Account in connection with certain Equipment Lease/Purchase Agreement, dated as of February 4, 2016, by and between Banc of America Public Capital Corp. and City of Hattiesburg.

Attachments: [Energy Performance Disbursement 19](#)
[RES#2017-153, executed Energy Performance Disbursement 19](#)

- VI.-2** [2017-685](#) Authorize suspension of all City of Hattiesburg permitting fees for an additional 30 days for anyone affected by the 1/21/17 tornado.
- VI.-3** [2017-691](#) Authorize Mayor to execute five (5) copies of contract with Fairley Construction Services for the Gordons Creek Repair between Hardy Street and Camp Street Project.

Attachments: [11243 Specs Executed by the Contractor](#)
[executed 11243 Specs Executed by the Contractor](#)

- VI.-4** **2017-692** Authorize Mayor to execute four (4) copies of contract with C.B. Developers for the COMSWIP Sewer Phase V Project.

Attachments: C B Developers Contract - COMSWIP Sewer Phase V Project
executed C B Developers Contract - COMSWIP Sewer Phase V Project

- VI.-5** [2017-695](#) Authorize Mayor to execute four (4) copies of contract with C.B. Developers for the Comprehensive Water Improvements Phase II - Palmers Crossing and Irene Chapel Project.

Attachments: [CB Developers Contract - Palmers Crossing and Irene Chapel Project](#)
[executed CB Developers Contract - Palmers Crossing and Irene Chapel Project](#)

- VI.-6** [2017-693](#) Approve waiver valuations and appraisal amounts and declare them as fair market value for property necessary for COMSWIP Sewer Project Phase XII Site 4 and Site 5, pursuant to MS Code 43-37-3 and other applicable statutes; Authorize fair market value offers for said parcels.

Attachments: [Site 4 - Madison Place Blvd 2](#)
[Site 4 - 211-A Pecan Grove Dr](#)
[Site 4 - 211-B Pecan Grove Dr](#)
[Site 4 - Madison Place Blvd](#)
[Site 5 - 71 J Ed Turner](#)
[Site 5 - 79 J Ed Turner](#)
[Site 5 - 85 J Ed Turner](#)
[Site 5 - 123 J Ed Turner](#)
[Site 5 - 131 J Ed Turner](#)
[Site 5 - J Ed Turner](#)

- VI.-7** [2017-681](#) Acknowledge receipt of and approve amendments to the budget for the Hattiesburg Convention Commission for fiscal year 2017.

Attachments: [FYE 2017 Amended Convention Commission Budget](#)

- VI.-8** [2017-687](#) Acknowledge receipt of and approve the budget for the Hattiesburg Convention Commission for Fiscal Year 2017-2018.

Attachments: [FYE 2018 Budget- HCC](#)

- VI.-9** [2017-690](#) Acknowledge receipt of Permanent Utility Easement for Mr. Cornell Malone on behalf of Hub City Timber and Land Management for Lamar County Parcel No. 24546, more fully described in the attached document, for the COMSWIP Water Phase V Project.

Attachments: [Utility Easement-Hub City Timber and Land Management](#)

- VI.-10** [2017-673](#) Ratify and confirm the Mayor's appointment of Ann Jones(W1) to the Pine Belt Regional Solid Waste Authority, for a term(6/30/2017-6/29/2021) beginning September 5,2017 and ending June 29,2021.

Attachments: [Data Sheet- Jones](#)

VII. ROUTINE AGENDA

- VII.-1** [2017-674](#) Acknowledge receipt of request filed by Don Brewster, Owner, to appeal the Hattiesburg Historic Conservation Commission's vote for the petition filed by Sharon & Don Brewster, Owners, to request to remove a grouping of trees for a certain property located at 503 S. 22nd Avenue, (Parcel 039B-17-025.00, PPIN 26916, Ward 4); (On August 9, 2017, the Hattiesburg Historic Conservation Commission voted to APPROVE, provided that only two pine trees are removed from the front yard: one that has been previously "topped" by tree contractors, and one that is significantly leaning toward the house); Set a public hearing before City Council on October 2, 2017 at 4:00 p.m. and authorize publication of Public Notice setting an Appeal Public Hearing.

Attachments: [Appeal request_Brewster_503 S 22nd Ave](#)
[Public Notice - Public Hearing - Brewster 503 S 22nd Ave](#)

- VII.-2** [2017-686](#) Acknowledge Receipt of the 2016-2017 End-of-Year Report for the University of Southern Mississippi Symphony & Opera Community & Educational Outreach Program.

Attachments: [USM Symphony & Opera Community & Educational Outreach Program End-of-](#)

- VII.-3** [2017-700](#) Approve Specifications and Authorize Publication of Advertisement for Legal Advertising for the City of Hattiesburg.

Attachments: [NTB- Legal Advertising](#)
[Specs- Legal Advertising](#)

- VII.-4** [2017-683](#) Approve the sale of grave spaces, per attached memo.

Attachments: [Receipts & Memos \(9-5-17\)](#)
[Deeds \(09-05-17\)](#)
[executed Deeds \(09-05-17\)](#)

- VII.-5** [2017-701](#) Approve claims docket for the period ending August 31, 2017

Attachments: [August 31, 2017 Claims Docket](#)

VIII. PUBLIC AGENDA

VIII.-1 Citizens' Forum



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-699

File ID: 2017-699

Type: Resolution

Status: Passed

Version: 1

Reference:

In Control: City Council

Requester: Lamar Rutland

File Created: 08/30/2017

Brief Title: Johnson Controls Requisition No. 19

Final Action: 09/19/2017

Minute Book Number: MB2017-402-403

Title:

Adopt a Resolution authorizing Disbursement No. 19 from the Project Fund Escrow Account in connection with certain Equipment Lease/Purchase Agreement, dated as of February 4, 2016, by and between Banc of America Public Capital Corp. and City of Hattiesburg.

Notes:

Agenda Date: 09/19/2017

Indexes:

Agenda Number: V.-13

Sponsors:

Enactment Date:

Attachments: Energy Performance Disbursement 19,
RES#2017-153, executed Energy Performance
Disbursement 19

Enactment Number:

Contact:

Meeting Date: 09/19/2017

Drafter: Sharon Waits

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1		09/05/2017					
1	City Council	09/19/2017	Adopt				Pass
Action Text: A MOTION was made by Council Member Delgado and seconded by Council Member George to Adopt a Resolution authorizing Disbursement No. 19 from the Project Fund Escrow Account in connection with certain Equipment Lease/Purchase Agreement, dated as of February 4, 2016, by and between Banc of America Public Capital Corp. and City of Hattiesburg.							
There being no discussion, the Motion received the affirmative vote of the Council as follows:							
Yeas: 5 - George, Delgado, Carroll, Dryden and Brown							
Nays: 0:							

Yea: 5 Council Member George
Council Member Delgado
Council President Carroll
Council Vice President Dryden
Council Member Brown

Text of Legislative File 2017-699

Title

Adopt a Resolution authorizing Disbursement No. 19 from the Project Fund Escrow Account in connection with certain Equipment Lease/Purchase Agreement, dated as of February 4, 2016, by and between Banc of America Public Capital Corp. and City of Hattiesburg.

Summary

Johnson Controls Requisition No. 19

The City Council of the City of Hattiesburg, Mississippi (the “City”) acting for and on behalf of the City, took up for consideration the matter of requesting and authorizing Disbursement No. **19** of funds from the Escrow Account in connection with the Equipment Lease/Purchase Agreement between the City and Banc of America Public Capital Corp and an Escrow and Account Control Agreement between the City and Bank of America, N.A., as Escrow Agent, dated February 4, 2016. After discussion of the subject, Council Member _____ offered and moved for the adoption of the following resolution:

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HATTIESBURG, MISSISSIPPI (THE “CITY”) AUTHORIZING DISBURSEMENT NO. 19 FROM THE ESCROW ACCOUNT IN CONNECTION WITH THAT EQUIPMENT LEASE/PURCHASE AGREEMENT DATED FEBRUARY 4, 2016, BY AND BETWEEN THE CITY AND BANC OF AMERICA PUBLIC CAPITAL CORP AND AN ESCROW AND ACCOUNT CONTROL AGREEMENT BETWEEN THE CITY AND BANK OF AMERICA, N.A., AS ESCROW AGENT, ALL IN CONNECTION WITH THAT CERTAIN PERFORMANCE CONTRACT UNDERTAKEN PURSUANT TO THE MISSISSIPPI DEVELOPMENT AUTHORITY CAPITAL LEASE PROGRAM TO FINANCE ENERGY EFFICIENCY AND CONSERVATION EQUIPMENT FOR CERTAIN FACILITIES LOCATED THROUGHOUT THE CITY, AND RELATED MATTERS.

Whereas, on February 4, 2016 the City entered into an Equipment Lease/Purchase Agreement between Banc of America Public Capital Corp and an Escrow Control Agreement between the Bank of America, National Association, as Escrow Agent, in an amount not to exceed \$7,528,000 (the “Lease”) pursuant to the terms and conditions of that certain agreement, dated as February 4, 2016, by between Banc of America Public Capital Corp and Bank of America, National Association (the “Lease”).

Whereas, the City Council of the City now finds it necessary to approve Disbursement No. **19** from the Escrow Account under the Lease in the total aggregate amount of **\$362,486.00** for the purpose of paying vendors in connection with the lease as more particularly described in Exhibit A.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HATTIESBURG, MISSISSIPPI:

SECTION 1. The City Council of the City hereby authorizes and approves Disbursement No. **19** from the Escrow Account under the Lease in the total aggregate amount of **Three Hundred Sixty-two Thousand Four Hundred Eighty-six and no/100 Dollars (\$ 362,486.00)** for the purpose of paying vendors in connection with the Lease as more particularly described in Exhibit A.

SECTION 2. The City Council hereby directs Bank of America, National Association, as the Escrow Agent, to disburse funds of Disbursement No. **19** in the total aggregate amount **Three Hundred Sixty-two Thousand Four Hundred Eighty-six and no/100 Dollars (\$ 362,486.00)** as authorized herein, as more particularly described in Exhibit A.

SECTION 3. The Mayor and City Clerk are hereby authorized and directed for and on behalf of the City to take any and all action as may be required by the City to carry out and give effect to the aforesaid documents authorized pursuant to this Resolution and to execute all papers, documents, certificates and other instruments that may be required for the carrying out of the authority conferred by this Resolution in order to evidence the authority.

The above and foregoing Resolution, after having been first reduced to writing, was introduced by Council Member _____ seconded by Council Member _____, and was adopted by the following vote, to wit:

YEAS:

NAYS:

ABSENT:

The motion having received the affirmative vote of a majority of the Council members present, the President declared the motion carried and the resolution adopted, on this the **19th** day of **September**, 2017.

(SEAL)

ATTEST:

ADOPTED:

CLERK OF COUNCIL

PRESIDENT

The above and foregoing Resolution having been submitted to and approved by the Mayor, this the **19th** day of **September**, 2017.

ATTEST:

APPROVED:

CITY CLERK

MAYOR

EXHIBIT A

DISBURSEMENT OF ESCROW FUNDS REQUEST

SCHEDULE 1
to the Escrow and Account Control Agreement

FORM OF DISBURSEMENT REQUEST

Re: Equipment Lease/Purchase Agreement dated as of February 4, 2016 by and between Banc of America Public Capital Corp, as Lessor and City of Hattiesburg, Mississippi, as Lessee (the “Lease”) (Capitalized terms not otherwise defined herein shall have the meanings assigned to them in the Lease.)

In accordance with the terms of the Escrow and Account Control Agreement, dated as of February 4, 2016 (the “Escrow Account and Account Control Agreement”) by and among Banc of America Public Capital Corp (“Lessor”), City of Hattiesburg, Mississippi (“Lessee”) and Bank of America, National Association, (the “Escrow Agent”), the undersigned hereby requests the Escrow Agent pay the following persons the following amounts from the Escrow Account created under the Escrow Account and Account Control Agreement for the following purposes:

Disbursement Amounts:

Payee’s Name and Address (if disbursement via wire, must include wire transfer instructions)	Invoice Number	Dollar Amount	Purpose
Johnson Control, Inc. JPM Chase One Bank Plaza Chicago, IL 60 670 ABA# 071000013 Account # 5514347	Pay App 19	\$362,486.00	Energy Performance Upgrades

(i) (a) Each obligation specified in the table herein titled as “Disbursement Amounts” has been incurred by Lessee in the stated amount, (b) the same is a proper charge against the Escrow Account for costs relating to the Equipment identified in the Lease, and (c) has not been paid (or has been paid by Lessee and Lessee requests reimbursement thereof).

(ii) Each item of Equipment relating to an obligation specified in the table herein titled as "Disbursement Amounts" has been delivered, installed and accepted by Lessee. Attached hereto is the original invoice with respect to such obligation.

(iii) The undersigned, as Authorized Representative, has no notice of any vendor's, mechanic's or other liens or rights to liens, chattel mortgages, conditional sales contracts or security interest which should be satisfied or discharged before such payment is made.

(iv) This requisition contains no item representing payment on account, or any retained percentages which Lessee is, at the date hereof, entitled to retain (except to the extent such amounts represent a reimbursement to Lessee).

(v) The Equipment is insured in accordance with the Lease.

(vi) No Event of Default, and no event which with notice or lapse of time, or both, would become an Event of Default, under the Lease has occurred and is continuing at the date hereof.

(vii) The disbursement shall occur during the Acquisition Period.

(viii) The representations, warranties and covenants of Lessee set forth in the Lease are true and correct as of the date hereof.

(ix) No Material Adverse Change has occurred since the date of the execution and delivery of the Lease.

Dated: September 19, 2017

CITY OF HATTIESBURG, MISSISSIPPI

By: _____
Mayor Toby Barker

Disbursement of funds from the Escrow
Account in accordance with the foregoing
Disbursement Request hereby is authorized

BANC OF AMERICA PUBLIC CAPITAL CORP
as Lessor under the Lease

By: _____
Name:
Title:

APPLICATION AND CERTIFICATION FOR PAYMENT

AIA DOCUMENT G702

PAGE ONE OF 2 PAGES

TO OWNER: City of Hattiesburg
200 Forrest Street
Hattiesburg, MS 39401

PROJECT: City of Hattiesburg Energy Performance Contract
PROJECT MGR: Moore, Chip

APPLICATION NO: 19
PERIOD TO: 8/31/2017
PROJECT NO: 5PYQ-0016

Distribution to:

☒	OWNER
☐	ARCHITECT
☐	CONTRACTOR
☐	
☐	

FROM CONTRACTOR:

JOHNSON CONTROLS, INC
South Region PC Branch
3021 W. Bend Drive

REMIT TO: Johnson Controls
PO Box 730068
Dallas, TX 75373

CONTRACT FOR: Energy Performance Upgrades

CONTRACT DATE: 28-Aug-15

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM		\$	7,249,714
2. Net change by Change Orders		\$	0
3. CONTRACT SUM TO DATE (Line 1 ± 2)	\$	\$	7,249,714
4. TOTAL COMPLETED & STORED TO		\$	7,249,714
DATE (Column G on G703)			
5. RETAINAGE:			
a. 0 % of Completed Work	\$	\$0	
(Column D + E on G703)			
b. 0 % of Stored Material	\$	0	
(Column F on G703)			
Total Retainage (Lines 5a + 5b or			
Total in Column I of G703)	\$	0	
6. TOTAL EARNED LESS RETAINAGE		\$	7,249,714
(Line 4 Less Line 5 Total)			
7. LESS PREVIOUS CERTIFICATES FOR			
PAYMENT (Line 6 from prior Certificate)	\$	6,887,228	
8. CURRENT PAYMENT DUE	\$	362,486	
		0	
		0	
9. BALANCE TO FINISH, INCLUDING RETAINAGE	\$	0	
(Line 3 less Line 6)			

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$0	\$0
Total approved this Month	\$0	\$0
TOTALS	\$0	\$0
NET CHANGES by Change Order	\$0	

The undersigned Contractor certifies that to the best of the Contractor's knowledge,
information and belief the Work covered by this Application for Payment has been
completed in accordance with the Contract Documents, that all amounts have been paid by
the Contractor for Work for which previous Certificates for Payment were issued and
payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR: Johnson Controls, Inc.

By: Derland Moore II Date: 8/18/2017

CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data
comprising the application, the Architect certifies to the Owner that to the best of the
Architect's knowledge, information and belief the Work has progressed as indicated,
the quality of the Work is in accordance with the Contract Documents, and the Contractor

is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ 362,486

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this
Application and on the Continuation Sheet that are changed to conform with the amount certified.)
Owner:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the
Contractor named herein. Issuance, payment and acceptance of payment are without
prejudice to any rights of the Owner or Contractor under this Contract.

CONTINUATION SHEET

AIA DOCUMENT G703

AIA Document G703, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.
In tabulations below, amounts are stated to the nearest dollar.
Use Column I on Contracts where variable retainage for line items may apply.

JCI PROJECT NO: 5PYQ-0016

APPLICATION NO: 19
APPLICATION DATE: 18-Aug-17
PERIOD TO: 31-Aug-17

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G		H BALANCE TO FINISH (C - G)	I RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD		TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)		
	<u>General Fund</u>								
1	Lighting Upgrade	\$ 1,186,211	\$1,163,196	23,015	\$0	\$1,186,211	100%	\$0	\$0
2	Energy Management Control System	\$ 470,334	\$450,702	19,632	\$0	\$470,334	100%	\$0	\$0
3	Small Unitary Equipment Replacement	\$ 362,896	\$359,367	3,529	\$0	\$362,896	100%	\$0	\$0
4	City Hall HVAC Upgrade	\$ 593,004	\$571,868	21,136	\$0	\$593,004	100%	\$0	\$0
5	Jackie Doyle HVAC Upgrade	\$ 102,285	\$102,285	0	\$0	\$102,285	100%	\$0	\$0
6	Solar Photo-Voltaic System	\$ 33,901	\$33,901	0	\$0	\$33,901	100%	\$0	\$0
	<u>Enterprise Fund</u>								
7	Lighting Upgrade	\$ 394,328	\$384,608	9,720	\$0	\$394,328	100%	\$0	\$0
8	Energy Management Control System	\$ 33,262	\$28,904	4,358	\$0	\$33,262	100%	\$0	\$0
9	Boiler Replacement	\$ 144,945	\$144,945	0	\$0	\$144,945	100%	\$0	\$0
10	Water Treatment Plant Control Upgrade	\$ 1,240,751	\$1,179,353	61,398	\$0	\$1,240,751	100%	\$0	\$0
11	Lift Station Control Upgrade	\$ 1,409,975	\$1,275,935	134,040	\$0	\$1,409,975	100%	\$0	\$0
12	Water Conservation Option	\$ 1,277,822	\$1,192,164	85,658	\$0	\$1,277,822	100%	\$0	\$0
GRAND TOTALS:		\$7,249,714	\$6,887,228	362,486	\$0	\$7,249,714	100%	\$0	\$0

The City Council of the City of Hattiesburg, Mississippi (the "City") acting for and on behalf of the City, took up for consideration the matter of requesting and authorizing Disbursement No. 19 of funds from the Escrow Account in connection with the Equipment Lease/Purchase Agreement between the City and Banc of America Public Capital Corp and an Escrow and Account Control Agreement between the City and Bank of America, N.A., as Escrow Agent, dated February 4, 2016. After discussion of the subject, Council Member Delgado offered and moved for the adoption of the following resolution:

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Whereas, on February 4, 2016 the City entered into an Equipment Lease/Purchase Agreement between Banc of America Public Capital Corp and an Escrow Control Agreement between the Bank of America, National Association, as Escrow Agent, in an amount not to exceed \$7,528,000 (the "Lease") pursuant to the terms and conditions of that certain agreement, dated as February 4, 2016, by between Banc of America Public Capital Corp and Bank of America, National Association (the "Lease").

Whereas, the City Council of the City now finds it necessary to approve Disbursement No. 19 from the Escrow Account under the Lease in the total aggregate amount of **\$362,486.00** for the purpose of paying vendors in connection with the lease as more particularly described in Exhibit A.

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SECTION 2. The City Council hereby directs Bank of America, National Association, as the Escrow Agent, to disburse funds of Disbursement No. 19 in the total aggregate amount **Three Hundred Sixty-two Thousand Four Hundred Eighty-six and no/100 Dollars (\$ 362,486.00)** as authorized herein, as more particularly described in Exhibit A.

SECTION 3. The Mayor and City Clerk are hereby authorized and directed for and on behalf of the City to take any and all action as may be required by the City to carry out and give effect to the aforesaid documents authorized pursuant to this Resolution and to execute all papers, documents, certificates and other instruments that may be required for the carrying out of the authority conferred by this Resolution in order to evidence the authority.

The above and foregoing Resolution, after having been first reduced to writing, was introduced by Council Member Delgado seconded by Council Member George, and was adopted by the following vote, to wit:

YEAS: George
Delgado
Carroll
Dryden
Brown

NAYS: None

ABSENT:

The motion having received the affirmative vote of a majority of the Council members present, the President declared the motion carried and the resolution adopted, on this the 19th day of **September**, 2017.

(SEAL)

ATTEST:

ADOPTED:


CLERK OF COUNCIL


PRESIDENT

The above and foregoing Resolution having been submitted to and approved by the Mayor, this the 19th day of **September**, 2017.

ATTEST:

APPROVED:


CITY CLERK


MAYOR

EXHIBIT A

DISBURSEMENT OF ESCROW FUNDS REQUEST

SCHEDULE 1
to the Escrow and Account Control Agreement

FORM OF DISBURSEMENT REQUEST

Re: Equipment Lease/Purchase Agreement dated as of February 4, 2016 by and between Banc of America Public Capital Corp, as Lessor and City of Hattiesburg, Mississippi, as Lessee (the "Lease") (Capitalized terms not otherwise defined herein shall have the meanings assigned to them in the Lease.)

In accordance with the terms of the Escrow and Account Control Agreement, dated as of February 4, 2016 (the "Escrow Account and Account Control Agreement") by and among Banc of America Public Capital Corp ("Lessor"), City of Hattiesburg, Mississippi ("Lessee") and Bank of America, National Association, (the "Escrow Agent"), the undersigned hereby requests the Escrow Agent pay the following persons the following amounts from the Escrow Account created under the Escrow Account and Account Control Agreement for the following purposes:

Disbursement Amounts:

Payee's Name and Address (if disbursement via wire, must include wire transfer instructions)	Invoice Number	Dollar Amount	Purpose
Johnson Control, Inc. JPM Chase One Bank Plaza Chicago, IL 60 670 ABA# 071000013 Account # 5514347	Pay App 19	\$362,486.00	Energy Performance Upgrades

(i) (a) Each obligation specified in the table herein titled as "Disbursement Amounts" has been incurred by Lessee in the stated amount, (b) the same is a proper charge against the Escrow Account for costs relating to the Equipment identified in the Lease, and (c) has not been paid (or has been paid by Lessee and Lessee requests reimbursement thereof).

(ii) Each item of Equipment relating to an obligation specified in the table herein titled as "Disbursement Amounts" has been delivered, installed and accepted by Lessee. Attached hereto is the original invoice with respect to such obligation.

(iii) The undersigned, as Authorized Representative, has no notice of any vendor's, mechanic's or other liens or rights to liens, chattel mortgages, conditional sales contracts or security interest which should be satisfied or discharged before such payment is made.

(iv) This requisition contains no item representing payment on account, or any retained percentages which Lessee is, at the date hereof, entitled to retain (except to the extent such amounts represent a reimbursement to Lessee).

(v) The Equipment is insured in accordance with the Lease.

(vi) No Event of Default, and no event which with notice or lapse of time, or both, would become an Event of Default, under the Lease has occurred and is continuing at the date hereof.

(vii) The disbursement shall occur during the Acquisition Period.

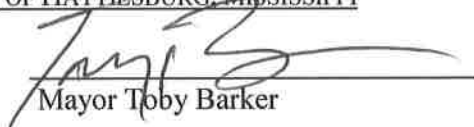
(viii) The representations, warranties and covenants of Lessee set forth in the Lease are true and correct as of the date hereof.

(ix) No Material Adverse Change has occurred since the date of the execution and delivery of the Lease.

Dated: September 19, 2017

CITY OF HATTIESBURG, MISSISSIPPI

By:


Mayor Toby Barker

Disbursement of funds from the Escrow
Account in accordance with the foregoing
Disbursement Request hereby is authorized

BANC OF AMERICA PUBLIC CAPITAL CORP
as Lessor under the Lease

By: _____
Name:
Title:

APPLICATION AND CERTIFICATION FOR PAYMENT

AIA DOCUMENT G702

PAGE ONE OF 2 PAGES

TO OWNER: City of Hattiesburg
200 Forrest Street
Hattiesburg, MS 39401

PROJECT: City of Hattiesburg Energy Performance Contract
PROJECT MGR: Moore, Chip

APPLICATION NO: 19
PERIOD TO: 8/31/2017
PROJECT NO: 5PYQ-0016

Distribution to:

☒	OWNER
☐	ARCHITECT
☐	CONTRACTOR

FROM CONTRACTOR:

JOHNSON CONTROLS, INC
South Region PC Branch
3021 W. Bend Drive

REMIT TO: Johnson Controls
PO Box 730068
Dallas, TX 75373

CONTRACT FOR: Energy Performance Upgrades

CONTRACT DATE: 28-Aug-15

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
Continuation Sheet, AIA Document G703, is attached.

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

Johnson Controls, Inc.

By: Derland Moore II

Date: 8/18/2017

1. ORIGINAL CONTRACT SUM \$ 7,249,714
2. Net change by Change Orders \$ 0
3. CONTRACT SUM TO DATE (Line 1 + 2) \$ 7,249,714
4. TOTAL COMPLETED & STORED TO \$ 7,249,714

DATE (Column G on G703)

5. RETAINAGE: a. 0 % of Completed Work (Column D + E on G703) \$ 0
b. 0 % of Stored Material (Column F on G703) \$ 0
Total Retainage (Lines 5a + 5b or Total in Column I of G703) \$ 0

6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total) \$ 7,249,714

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate) \$ 6,887,228

8. CURRENT PAYMENT DUE \$ 362,486

9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6) \$ 0

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$0	\$0
Total approved this Month	\$0	\$0
TOTALS	\$0	\$0
NET CHANGES by Change Order	\$0	\$0

CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ 362,486

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)
Owner: [Signature]

By: [Signature] Date: 9-19-17

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CONTINUATION SHEET

THIS DOCUMENT CONTAINS INFORMATION THAT IS UNCLASSIFIED, CONTAINING

Information that is not to be released to the public.

Information that is not to be released to the public.

Information that is not to be released to the public.

Use Column 1 on Continuation sheets where variable retainage for line items may apply.

AIA DOCUMENT G703

PROJECT NO: 35400016

APPLICATION NO:

18-Aug-17

31-Aug-17

APPLICATION DATE:

PERIOD TO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE		D WORK COMPLETED FROM PREVIOUS APPLICATION (D + E)		E THIS PERIOD		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)	H BALANCE TO FINISH (C - G)	I RETAINAGE (OF VARIABLE RATE)
	General Fund										
1	Lighting Upgrade	\$	1,186,211		\$1,163,196		23,015	\$0	\$1,186,211	100%	\$0
2	Energy Management Control System	\$	470,334		\$450,702		19,632	\$0	\$470,334	100%	\$0
3	Small Unitary Equipment Replacement	\$	362,896		\$359,367		3,529	\$0	\$362,896	100%	\$0
4	City Hall HVAC Upgrade	\$	593,004		\$571,868		21,136	\$0	\$593,004	100%	\$0
5	Jackie Doyle HVAC Upgrade	\$	102,285		\$102,285		0	\$0	\$102,285	100%	\$0
6	Solar Photo-Voltaic System	\$	33,901		\$33,901		0	\$0	\$33,901	100%	\$0
	Enterprise Fund										
7	Lighting Upgrade	\$	394,328		\$384,608		9,720	\$0	\$394,328	100%	\$0
8	Energy Management Control System	\$	33,262		\$28,904		4,358	\$0	\$33,262	100%	\$0
9	Boiler Replacement	\$	144,945		\$144,945		0	\$0	\$144,945	100%	\$0
10	Water Treatment Plant Control Upgrade	\$	1,240,751		\$1,179,353		61,398	\$0	\$1,240,751	100%	\$0
11	Lift Station Control Upgrade	\$	1,409,975		\$1,275,935		134,040	\$0	\$1,409,975	100%	\$0
12	Water Conservation Option	\$	1,277,822		\$1,192,164		85,658	\$0	\$1,277,822	100%	\$0
GRAND TOTALS:		\$7,249,714		\$6,887,228		362,486		\$0	\$7,249,714	100%	\$0



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-685

File ID: 2017-685

Type: Regular Agenda Item

Status: Agenda Ready

Version: 1

Reference:

In Control: City Council

Requester:

File Created: 08/28/2017

Brief Title: Suspension of All COH Permitting Fees for Additional
30 Days, Tornado 1-21-17

Final Action: 09/05/2017

Minute Book Number: 2017-370

Title:

Authorize suspension of all City of Hattiesburg permitting fees for an
additional 30 days for anyone affected by the 1/21/17 tornado.

Notes: Recommended by Leo Wood of Broaddus Associates.

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VI.-2

Sponsors:

Enactment Date:

Attachments:

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017	Authorize				Pass
Action Text: A MOTION was made by Council Member George and seconded by Council Member Delgado to Authorize suspension of all City of Hattiesburg permitting fees for an additional 30 days for anyone affected by the 1/21/17 tornado.							
There being no discussion, the Motion received the affirmative vote of the Council as follows:							
Yeas: 5 - George, Delgado, Carroll, Dryden and Brown							
Nays: 0							
Yea: 5 Council Member George Council Member Delgado Council President Carroll Council Vice President Dryden Council Member Brown							

Text of Legislative File 2017-685

Title

Authorize suspension of all City of Hattiesburg permitting fees for an additional 30 days for anyone affected by the 1/21/17 tornado.

Summary

Authorize suspension of all City of Hattiesburg permitting fees for an additional 30 days for anyone affected by the 1/21/17 tornado.

Budget Information

Expenditure Type

Purchasing Item

Publication Information



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-691

File ID: 2017-691

Type: Regular Agenda Item

Status: Agenda Ready

Version: 1

Reference:

In Control: City Council

Requester: LaTasha McDaniel

File Created: 08/30/2017

Brief Title: Authorize execution of contract for Gordons Creek Repair

Final Action: 09/05/2017

Minute Book Number: 2017-370

Title:

Authorize Mayor to execute five (5) copies of contract with Fairley Construction Services for the Gordons Creek Repair between Hardy Street and Camp Street Project.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VI.-3

Sponsors:

Enactment Date:

Attachments: 11243_Specs Executed by the Contractor, executed
11243_Specs Executed by the Contractor

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017	Authorize				Pass
Action Text: A MOTION was made by Council Member Delgado and seconded by Council Member George to Authorize Mayor to execute five (5) copies of contract with Fairley Construction Services for the Gordons Creek Repair between Hardy Street and Camp Street Project.							
There being no discussion, the Motion received the affirmative vote of the Council as follows:							
Yeas: 5 - George, Delgado, Carroll, Dryden and Brown							
Nays: 0							
Yea: 5 Council Member George Council Member Delgado Council President Carroll Council Vice President Dryden Council Member Brown							

Text of Legislative File 2017-691

Title

Authorize Mayor to execute five (5) copies of contract with Fairley Construction Services for the Gordons Creek Repair between Hardy Street and Camp Street Project.

Summary

Authorize execution of contract for Gordons Creek Repair.

Budget Information

Expenditure Type

Purchasing Item

Publication Information



Engineering Progress

SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

**GORDON'S CREEK REPAIR BETWEEN
HARDY STREET & CAMP STREET**

FOR THE

**CITY OF HATTIESBURG
FORREST COUNTY
MISSISSIPPI**

MAY 2017



PREPARED BY:

**SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS**



Engineering Progress

SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

**GORDON'S CREEK REPAIR BETWEEN
HARDY STREET & CAMP STREET**

FOR THE

**CITY OF HATTIESBURG
FORREST COUNTY
MISSISSIPPI**

MAY 2017



PREPARED BY:

**SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS**

Table of Contents:

ADVERTISEMENT FOR BIDS	3
INFORMATION FOR BIDDERS	5
PROPOSAL FORM	8
BID BOND.....	12
CONTRACT AGREEMENT	14
PAYMENT AND PERFORMANCE BOND.....	17
NOTICE OF AWARD	19
NOTICE TO PROCEED	20
GENERAL CONDITIONS	21
PRELIMINARY MATTERS	24
CORRELATION, INTERPRETATION and	26
INTENT of CONTRACT DOCUMENTS	26
AVAILABILITY OF LANDS;.....	28
SUBSURFACE CONDITIONS; REFERENCE POINTS	28
BONDS AND INSURANCE	29
CONTRACTOR'S RESPONSIBILITIES.....	31
WORK BY OTHERS	41
OWNER'S RESPONSIBILITIES.....	42
ENGINEER'S STATUS DURING CONSTRUCTION	44
CHANGES IN WORK	46
CHANGE OF CONTRACT PRICE	47
CHANGE OF CONTRACT TIME.....	53
GUARANTY	54
PAYMENTS AND COMPLETION	54
SUSPENSION OF WORK AND TERMINATION.....	57
ARBITRATION	59
MISCELLANEOUS.....	60
SUPPLEMENTAL GENERAL CONDITIONS	63
SPECIAL CONDITIONS	63
SCOPE AND INTENT	63
EXAMINATION OF PREMISES.....	63
PERMITS, TAXES, AND ORDINANCES.....	63
INSURANCES, ETC.....	63
CLEANING UP	65
GUARANTEE.....	65
BIDS	66
SPECIAL INSTRUCTIONS	66
LIMITATIONS.....	66
PRODUCT/MATERIALS SUBSTITUTION.....	66
INSPECTION.....	66
WARRANTY.....	66
SPECIFICATIONS AND DRAWINGS ARE RECIPROCAL.....	66
AS-BUILT DRAWINGS	67
GUARANTEES, WARRANTIES AND BONDS	67
CLOSE-OUT DOCUMENTS	68
MEASUREMENT AND PAYMENT	69
TECHNICAL SPECIFICATIONS	70



ADVERTISEMENT FOR BIDS

NOTICE is hereby given that the City Clerk of the City of Hattiesburg, Mississippi, will receive sealed bids until 10:00 a.m. on July 13, 2017 in the City Clerk's Office in the City Hall at 200 Forrest Street of said City for furnishing the City's requirements for the following:

GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET HATTIESBURG, MISSISSIPPI

Plans, Specifications and proposal forms may be obtained from Shows, Dearman & Waits, Inc., 301 Second Avenue, Hattiesburg, Mississippi, 39401, upon deposit of \$150.00, non-refundable. All bids must be accompanied by bid security equal to 5% of the amount of the bid, in the form of a certified check, cashier's check, or a bid bond written by a company properly licensed in Mississippi.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner EXACTLY as follows:

BID:

GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET HATTIESBURG, MISSISSIPPI

No bid may be withdrawn for a period of sixty (60) days. The lowest and best proposal received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated and Amended, and other applicable State law; but the Council reserves the right to reject any or all proposals received and to waive informalities.

PUBLISHED by Order of the Council on the 5th day of June A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: _____
Kermas Eaton, City Clerk

Publish on June 9, 2017 and June 16, 2017
City of Hattiesburg
Return PROOF to City Clerk's Office
PO Box 1898
Hattiesburg, MS 39403-18

INFORMATION FOR BIDDERS

BIDS will be received by the CITY OF HATTIESBURG, MISSISSIPPI herein called the "OWNER", at City Hall until 10:00 a.m. on July 13, 2017, and then at said office publicly opened and read aloud.

Each BID must be submitted in sealed envelope, addressed to the City of Hattiesburg, Mississippi. Each sealed envelope containing a BID must be plainly marked on the outside as BID for GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET and the envelope should bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed addressed to the Owner at P. O. Box 1898, Hattiesburg, MS 39403

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a BID BOND payable to the OWNER for five percent

(5%) of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsive, responsible BIDDERS. When the Agreement is executed the BONDS of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a BID BOND.

A PERFORMANCE BOND and a PAYMENT BOND, each in the amount of 100 percent (100%) of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dated copy of their Power of Attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period; the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible BIDDER.

All applicable Laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

FURTHER, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER is SHOWS, DEARMAN & WAITS, INC. The address of the ENGINEER is 301 2nd Avenue, Hattiesburg, MS 39401.

Fill Material and Borrow Pit Guidelines



FEMA

Fill & Borrow Pits:

- ⇒ Fill may be mined on private or publicly-owned land.
- ⇒ Fill is considered any material that is mined in Mississippi:
 - ◆ Gravel/clay gravel
 - ◆ Sand
 - ◆ Dirt
 - ◆ Soil
- ⇒ Riprap is not currently mined in Mississippi and resource verification is not required for Environmental Planning & Historic Preservation (EHP) review.
- ⇒ A Borrow Pit is a location where fill is mined.

Permitted Borrow Pits:

- ⇒ Mississippi Department of Environmental Quality (MDEQ) permitting is required for pits over four (4) acres.
- ⇒ Permitted borrow pits have received environmental reviews and clearance by the State Historic Preservation Office.
- ⇒ MDEQ maintains lists of permitted borrow pits, which are updated monthly.
- ⇒ Map of permitted mines can be viewed on the MDEQ Mine Viewer: www.geology.deq.ms.gov/mining/viewer
- ⇒ MS DOT uses only fill from permitted borrow pits.
- ⇒ Many borrow pit businesses and road repair contractors want to be eligible for MS DOT work, so they comply with permitting requirements and are permitted.
- ⇒ Upon completion of mining, borrow pits/mine sites are reclaimed.

Exempt Borrow Pits:

- ⇒ Borrow pits under 4 acres of total disturbance that are not within 1,320 feet from an existing borrow pit do not require permitting, and receive a letter of Exemption from MDEQ.
- ⇒ Exemption form: [http://www.deq.state.ms.us/mdeq.nsf/pdf/Geology_MRD9\\$File/Minlap%20Form%20MRD9%20Notice%20of%20Exempt%20Operations.pdf?OpenElement](http://www.deq.state.ms.us/mdeq.nsf/pdf/Geology_MRD9$File/Minlap%20Form%20MRD9%20Notice%20of%20Exempt%20Operations.pdf?OpenElement)

Grandfathered Borrow Pits:

- ⇒ In Mississippi, permitting laws went into effect on April 15, 1978.
- ⇒ Affected areas prior to 1978 were considered to be grandfathered.
- ⇒ MDEQ Mining and Reclamation Division will determine if a site is eligible for grandfathered status.

Unauthorized Borrow Pits:

- ⇒ Any mining operation that is not permitted, exempt or grandfathered.
- ⇒ All mines/pits must have a Storm Water Permit issued by the Office of Pollution Control.

Stockpiles:

- ⇒ Fill that has been mined then moved to another location for easy access.
- ⇒ Fill must come from Permitted, Exempt, Grandfathered sites.

Fill Material and Borrow Pit Guidelines



FEMA

MDEQ consultation to determine the status of a Borrow Pit

When an applicant cannot provide a permit or exempt number:

- ⇒ First, review MDEQ's list of permitted borrow pits at <http://geology.deq.ms.gov/mining/viewer/>.
- ⇒ If the pit is not listed on the MDEQ list of permitted borrow pits, email consultation should take place with MDEQ to determine if the site is exempt, grandfathered or unauthorized.

Project consultations with MDEQ can be made via email by contacting:

Ron Porter, Environmental Scientist, MDEQ Office of Geology, Mining & Reclamation Division

- ◆ rporter@mdcq.ms.gov (601-961-5714), or

Brandon Cummins, GIT, MDEQ Office of Geology, Mining & Reclamation Division,

- ◆ bcummins@mdcq.ms.gov (601-961-5526)

Trent Jones, PE, Office of Pollution Control, Solid Waste and Mining Branch,

- ◆ tjones@mdcq.ms.gov (601-961-5726)

Provide the following information about the borrow pit to Ron/Brandon/Trent:

- ⇒ Coordinates in Degrees, Minutes and Seconds (Decimal coordinates can be converted in ACME mapper).
- ⇒ Address, if available.
- ⇒ Name of the borrow pit and/or the company that owns the pit, or
- ⇒ The name of the contractor that is providing the fill, or
- ⇒ Identify the site (county, town or private land).

Additional Information

Storm water permits:

Applicants who have a borrow pit, permitted or exempt, also must have a storm water permit.

Required permits

The Storm Water permit package can be found online at www.deq.state.ms.us by clicking "Applications & Forms" in the navigation menu on the left side of the page. The package is listed under the "Stormwater General Permit" section of forms.

Direct link:

http://www.deq.state.ms.us/mdcq.ms/pdf/cpd_MiningFormsPackage/SFile/Mining_Forms_Package.pdf?OpenElement

The Surface Mining forms can be found at www.deq.state.ms.us by clicking on Mining and Reclamation Division tab under the Office of Geology. Choose Mining Forms.

PROPOSAL FORM

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 60 calendar days thereafter.

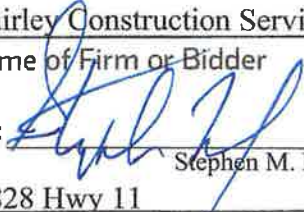
It is understood that the quantities of work listed for unit prices bid are approximate, and are intended to merely indicate the general scope of the various items entering into the complete work. It is further understood and agreed that the Owner may increase or decrease the quantities listed in the Proposal to an extent equivalent to 30% of the bid price (in dollars) and that no change in the unit prices proposed shall be occasioned thereby.

The undersigned further agrees that the unit and lump sum prices quoted include all items of work required or necessary for the accomplishment of the projected work and that these items include all work indicated on the Plans and Specifications for which no specific pay items have been established.

The undersigned certifies that the bid prices contained herein have been carefully checked and are submitted as correct and final.

If within sixty (60) days the scheduled closing time for receipt of bids, this Proposal is accepted, the undersigned will execute a formal contract within ten (10) days after official notification thereof, will deliver a surety bond for the faithful performance of this contract, and will complete the work within the time specified from the date of execution of the contract.

Respectfully Submitted,

Fairley Construction Services, Inc.
Name of Firm or Bidder
By: 
Stephen M. Fairley, President
828 Hwy 11
Address
Petal, MS 39465
City, State, Zip-Code

Note: All materials and components shall be a product of the U.S.A.

PROPOSAL

**GORDON'S CREEK REPAIR BETWEEN
HARDY STREET & CAMP STREET
HATTIESBURG, MISSISSIPPI**

BASE BID

Pay Item No.	Pay Item	Unit	Quantity	Unit Price, (\$)	Extension, (\$)
202-B025	Removal of Concrete Paved Ditch	SY	1850	\$20.00	\$37,000.00
203-EX018	Borrow Excavation, AH, LVM, Class B9	CY	875	\$20.00	\$17,500.00
221-A001	Portland Cement Concrete Paved Ditch	CY	315	\$400.00	\$126,000.00
234-A001	Temporary Silt Fence	LF	3350	\$1.50	\$5,025.00
413-B001	Cleaning and Sealing Joints	LF	32000	\$3.50	\$112,000.00
618-A001	Maintenance of Traffic	LS	1		\$5,000.00
620-A001	Mobilization	LS	1		\$100,000.00
907-225-A001	Grassing	ACRE	1		\$5,000.00
907-226-A001	Temporary Grassing	ACRE	1		\$500.00
907-237-A003	Wattles, 20"	LF	100	\$5.00	\$500.00
907-512-B001	Portland Cement Pressure Grout Slurry, Type 1	LBS	600000	\$.20	\$120,000.00

TOTAL, BASE BID: (\$) \$528,525.00

Base Bid Respectfully Submitted, Name of Firm or Bidder: Fairley Construction Services, Inc.



AIA[®] Document A310[™] – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

**Fairley Construction Services, Inc.
828 Hwy 11
Petal, MS 39465**

SURETY:

(Name, legal status and principal place of business)

**Westfield Insurance Company
P.O. Box 5001
Westfield Center, OH 44251-5001**

OWNER:

(Name, legal status and address)

**City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39401**

This document has important legal consequences.

Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

BOND AMOUNT: Five Percent (5%) of the Amount Bid-----

PROJECT:

(Name, location or address, and Project number, if any)

**Gordon's Creek Repair Between Hardy Street & Camp Street
Hattiesburg, MS**

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this **13th** day of **July**, 2017

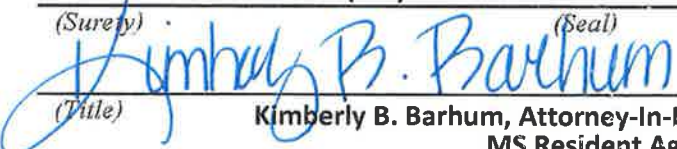

(Witness)

Fairley Construction Services, Inc.
(Contractor as Principal) (Seal)

(Title)

Stephen M. Fairley,
President


(Witness)

Westfield Insurance Company
(Surety) (Seal)

(Title)
Kimberly B. Barhum, Attorney-In-Fact
MS Resident Agent

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we, the under signed,
_____ Principal, and _____ as Surety, are hereby
held and firmly bound unto _____ as Owner in the penal sum of 5%
(Five Percent) for payment of which, well and truly to be made, we hereby jointly and
severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20_____.

The Condition of the above obligation is such that whereas the Principal has submitted to
a certain BID, attached hereto and hereby made a part hereof to enter into a contract in
writing, for the following project:

**GORDON'S CREEK REPAIR BETWEEN
HARDY STREET & CAMP STREET
HATTIESBURG, MISSISSIPPI**

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in
the Form of Contract attached hereto (properly completed in accordance with said BID) and
shall furnish a BOND for his faithful performance of said contract, and for the payment of
all persons performing labor or furnishing materials in connection therewith, and shall in all
other respects perform the agreement created by the acceptance of said BID, then this
obligation shall be void, otherwise the same shall remain in force and effect; it being
expressly understood and agreed that the liability of the Surety for any and all claims
hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said
Surety and its BOND shall be in no way impaired or affected by any extension of the time
within which the OWNER may accept such BID; and said Surety does hereby waive notice
of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year set forth above.

_____(L.S.)
PRINCIPAL

SURETY

BY: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasure Department's most current line (Circular 570 as amended) and be authorized to transact business in the state where the project is located

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 03/29/16, FOR ANY PERSON OR PERSONS NAMED BELOW.

General
Power
of Attorney

CERTIFIED COPY

POWER NO. 2320202 13

Westfield Insurance Co.
Westfield National Insurance Co.
Ohio Farmers Insurance Co.
Westfield Center, Ohio

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint
DAVID R. FORTENBERRY, RICHARD T. JONES, MARY J. NORVAL, KIMBERLY B. BARHUM, JOINTLY OR SEVERALLY

of **HATTIESBURG** and State of **MS** its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings, or other instruments or contracts of suretyship-

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY:

"Be It Resolved, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed by the President and sealed and attested by the Corporate Secretary."

"Be It Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2000).

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their **National Surety Leader and Senior Executive** and their corporate seals to be hereto affixed this **29th** day of **MARCH** A.D., **2016**.

Corporate
Seals
Affixed



WESTFIELD INSURANCE COMPANY
WESTFIELD NATIONAL INSURANCE COMPANY
OHIO FARMERS INSURANCE COMPANY

By:
Dennis P. Baus, National Surety Leader and Senior Executive

State of Ohio
County of Medina ss.:

On this **29th** day of **MARCH** A.D., **2016**, before me personally came **Dennis P. Baus** to me known, who, being by me duly sworn, did depose and say, that he resides in **Wooster, Ohio**; that he is **National Surety Leader and Senior Executive** of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial
Seal
Affixed



David A. Kotnik, Attorney at Law, Notary Public
My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

State of Ohio
County of Medina ss.:

I, **Frank A. Carrino**, Secretary of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this **13th** day of **July** A.D., **2017**



Frank A. Carrino, Secretary

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, 20__ by and between Fairley Construction hereinafter called the CONTRACTOR, and the CITY OF HATTIESBURG, MISSISSIPPI hereinafter called the OWNER, Witnesseth that the Contractor and the OWNER, for the consideration hereafter named and agrees as follows.

ARTICLE 1: SCOPE OF WORK

The Contractor agrees to furnish all tools, labor, equipment, materials, and supplies required to be furnished, and perform all work required under and in accordance with the plans entitled:

GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET HATTIESBURG, MISSISSIPPI

which are on file at the office of the OWNER, and the Specifications, Proposals, General and Special Conditions, attached hereto and made a part hereof as fully as though copied herein, under the direct supervision and to the entire satisfaction of the OWNER and in accordance with the Laws of the State of Mississippi.

ARTICLE 2: THE CONTRACT SUM

It is further agreed and understood by and between the parties hereunto that the OWNER agrees to pay and the Contractor agrees to accept full and final compensation for all work done under this agreement, the lump sum amount adjusted for variation of quantities at the unit prices named in the Proposal, which is hereto attached, such payment to be made in lawful money of the United States, at the time and in the manner hereinafter set forth.

ARTICLE 3: TIME OF COMPLETION

The Contractor agrees, for the consideration above expressed, to begin and complete the work within the time specified in the Proposal. If the Contractor fails to complete the work in the time specified, he shall pay the OWNER as **LIQUIDATED DAMAGES**, ascertained and agreed, and not in the nature of a penalty, the sum of **\$ 350.00** for each day delayed, which shall be deducted from the final amount to be paid under the contract; provided that the extension of time with the waiver of liquidation damages may be granted as provided for in the Specifications.

ARTICLE 4: PROGRESS PAYMENTS

The owner agrees to make progress payments during the construction as provided herein as follows:

The ENGINEER will on or before the tenth (10th) day of each month make an estimate of the value of the work done, based on contract prices.

The OWNER agrees to pay the CONTRACTOR 100% of the value of the work done each month, less five percent (5%) RETAINAGE until final acceptance of the work has been made).

ARTICLE 5: ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final acceptance and inspection, the Engineer shall promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he shall promptly issue a final certificate, over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof. Then, the entire balance shall be due the Contractor within sixty (60) days the date of said final acceptance.

Before issuance of final certificate, the Contractor shall submit evidence satisfactory to the ENGINEER that all payrolls, materials, bills, and other indebtedness connected with the work have been paid.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER, other than those arising from unsettled liens, from faulty work or materials appearing within one (1) year after payment, or claims previously made and still unsettled.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Engineer, so certifies, the OWNER shall, upon certificate of the Engineer and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE 6: THE PERFORMANCE BOND

The Contractor agrees to furnish a bond, with an approved surety thereon guaranteeing the performance of this contract, in no less than one hundred percent (100%) of the amount of the Contract. Said Bond shall be conditioned on full and complete performance of the Contract, and for the payment of all labor and materials for a period of one (1) year

after completion. The Surety on said Bond shall be a surety company of financial resources satisfactory to the OWNER and authorized to do business in the State of Mississippi.

ARTICLE 7: INSURANCE

The Contractor agrees to also carry Public Liability Insurance, Property Damage Insurance, and Workman's Compensation Insurance in amounts as required by the Specifications.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

OWNERS:

SEAL

City of Hattiesburg, Mississippi

BY _____

Title _____

ATTEST _____

CONTRACTOR:

SEAL

Fairley Construction Services, Inc.

BY _____

Title _____

ATTEST _____

President

Cindy Y. Brown

PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: THAT WE, the Undersigned (hereinafter called the Principal), a corporation, partnership or individual duly unauthorized by law to do business as a construction contractor in the State of Mississippi, and of (herein called the Surety), a corporation duly authorized to do a surety business under the laws of the State of Mississippi, are held and firmly bound unto City of Hattiesburg, (hereinafter called the Obligee), a _____ Municipality existing under the laws of the State of Mississippi, in the penal sum of _____ Dollars (_____) lawful money of the United States, for the payment of which well and truly to be made, the said Principal and the said Surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents, as follows:

The Condition of this obligation is such that; whereas Principal by an instrument in writing attached here-to and bearing date of _____ has agreed with said Obligee to do all work necessary and to furnish labor, materials, tools, supplies and services to construct GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET as shown on Plans and specified thereby in the Specifications, Proposal and other Contract Documents hereto attached.

NOW THEREFORE, if said Principal shall well and truly in good, sufficient and workmanlike manner, and to the satisfaction of Obligee perform and complete the work required, and shall defend, indemnify and save harmless said Obligee against all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising out of injury or damage to persons or property by reason or arising from any act, omission or neglect of said Principal, his agent, servants or employees with relation to said work; and shall pay all cost, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to Obligee completed and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to Obligee by reason of any default or neglect of the said Principal in the relation of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said surety for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract, or the work to be performed hereunder, or the Specifications accompanying the same, shall in any way affect its obligation on this bond and does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

PROVIDED FURTHER, that if Principal, his or its subcontractor or subcontractors fail to duly pay for any labor, materials, team hire, sustenance provisions or any other supplies or materials used or consumed by such Principal or his, their or its subcontractors in performance of the work contracted to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest as provided by law.

IN WITNESS THEREOF: Said Principal and surety have hereunto set their hands and seals at _____ this _____ day of _____, 20__.

(SEAL)

WITNESSES:

TITLE

WITNESSES:

TITLE

PRINCIPAL

ADDRESS

Name of person executing for Principal

TITLE

SURETY

ADDRESS

Name of person executing for Surety

TITLE

AIA[®] Document A312[™] – 2010
Performance Bond**CONTRACTOR:***(Name, legal status and address)*

Fairley Construction Services, Inc.
828 Hwy 11
Petal, MS 39465

SURETY:*(Name, legal status and principal place of business)*

Westfield Insurance Company
P.O. Box 5001
Westfield Center, OH 44251-5001

OWNER:*(Name, legal status and address)*

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39401

CONSTRUCTION CONTRACT

Date:

Amount: **\$528,525.00**

Description:

(Name and location)

Gordon's Creek Repair Between Hardy Street & Camp Street
Hattiesburg, MS

BOND

Date:

*(Not earlier than Construction Contract Date)*Amount: **\$528,525.00**

Modifications to this Bond:

☒

None

☐

See Section 16

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)
Fairley Construction Services, Inc.

Signature:

Name and

Title:

*(Any additional signatures appear on the last page of this Performance Bond.)***SURETY**

Company:

*(Corporate Seal)***Westfield Insurance Company**

Signature:

Name and

Title:

Kimberly B. Barhum, Attorney-in-Fact**MS Resident Agent***(FOR INFORMATION ONLY — Name, address and telephone)***AGENT or BROKER:****BancorpSouth Insurance Services, Inc.** *(Architect, Engineer or other party:)***David Fortenberry****P.O. Box 1976****Hattiesburg, MS 39403-1976****601-544-8703****OWNER'S REPRESENTATIVE:****Shows, Dearman & Waits, Inc.****301 Second Ave.****Hattiesburg, MS 39401****601-544-1821**

This document has important
 legal consequences.

Consultation with an attorney
 is encouraged with respect to
 its completion or modification.

Any singular reference to
 Contractor, Surety, Owner or
 other party shall be considered
 plural where applicable.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____ *(Corporate Seal)*

Signature: N/A
Name and Title: _____

Address: _____

SURETY

Company: _____ *(Corporate Seal)*

Signature: N/A
Name and Title: _____

Address: _____

AIA[®] Document A312[™] – 2010
Payment Bond**CONTRACTOR:***(Name, legal status and address)*

Fairley Construction Services, Inc.
828 Hwy 11
Petal, MS 39465

SURETY:*(Name, legal status and principal place of business)*

Westfield Insurance Company
P.O. Box 5001
Westfield Center, OH 44251-5001

OWNER:*(Name, legal status and address)*

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39401

CONSTRUCTION CONTRACT

Date:

Amount: **\$528,525.00**

Description:

(Name and location)

Gordon's Creek Repair Between Hardy Street & Camp Street
Hattiesburg, MS

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

BOND

Date:

*(Not earlier than Construction Contract Date)*Amount: **\$528,525.00**

Modifications to this Bond:

☒

None

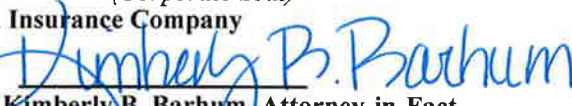
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See Section 18

CONTRACTOR AS PRINCIPALCompany: *(Corporate Seal)***Fairley Construction Services, Inc.**Signature: 

Name and

Title:

*(Any additional signatures appear on the last page of this Payment Bond.)***SURETY**Company: *(Corporate Seal)***Westfield Insurance Company**Signature: Name and **Kimberly B. Barhum, Attorney-in-Fact**

Title:

MS Resident Agent*(FOR INFORMATION ONLY — Name, address and telephone)***AGENT or BROKER:****BancorpSouth Insurance Services, Inc.** *(Architect, Engineer or other party:)***David Fortenberry****P.O. Box 1976****Hattiesburg, MS 39403-1976****601-544-8703****Shows, Dearman & Waits, Inc.****301 Second Ave.****Hattiesburg, MS 39401****601-544-1821**

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____ *(Corporate Seal)*

Signature: N/A
Name and Title: _____
Address: _____

SURETY

Company: _____ *(Corporate Seal)*

Signature: N/A
Name and Title: _____
Address: _____

General
Power
of Attorney

Westfield Insurance Co.
Westfield National Insurance Co.
Ohio Farmers Insurance Co.
Westfield Center, Ohio

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint
DAVID R. FORTENBERRY, RICHARD T. JONES, MARY J. NORVAL, KIMBERLY B. BARHUM, JOINTLY OR SEVERALLY

of HATTIESBURG and State of MS its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings, or other instruments or contracts of suretyship.

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY:

"Be It Resolved, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed by the President and sealed and attested by the Corporate Secretary."

"Be It Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2000).

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereto affixed this 29th day of MARCH A.D., 2016.

Corporate
Seals
Affixed



WESTFIELD INSURANCE COMPANY
WESTFIELD NATIONAL INSURANCE COMPANY
OHIO FARMERS INSURANCE COMPANY

By:
Dennis P. Baus, National Surety Leader and
Senior Executive

State of Ohio
County of Medina ss.:

On this 29th day of MARCH A.D., 2016, before me personally came Dennis P. Baus to me known, who, being by me duly sworn, did depose and say, that he resides in Wooster, Ohio; that he is National Surety Leader and Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial
Seal
Affixed



State of Ohio
County of Medina ss.:

David A. Kotnik, Attorney at Law, Notary Public
My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

I, Frank A. Carrino, Secretary of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this day of A.D., 2017



Frank A. Carrino, Secretary



CERTIFICATE OF LIABILITY INSURANCE

FAIRLEY

OP ID: LB

DATE (MM/DD/YYYY)

08/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER The Joiner-Sigler Agency, Inc. 516 N. 13th Ave. P O Box 2982 Laurel, MS 39442-2982 Lee M. Bolling		CONTACT NAME: Lee M. Bolling PHONE (A/C, No, Ext): 601-649-1121 E-MAIL ADDRESS: leebolling@joinersigler.com FAX (A/C, No): 601-649-4130	
INSURED Fairley Construction Services, Inc 828 Hwy 11 Petal, MS 39465		INSURER(S) AFFORDING COVERAGE INSURER A: Liberty Mutual Ins INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	
		NAIC #	

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PRO-JECT ☐ LOC OTHER:		BKS57203898	03/24/2017	03/24/2018	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
A	☒ AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ HIRED AUTOS ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS		BAS57262463	05/10/2017	03/24/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	☒ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE DED ☒ RETENTION \$ 10000		ESO57203898	03/24/2017	03/24/2018	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y/N ☐ N/A					PER STATUTE ☐ OTH-ER ☐ E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

For Gordon's Creek Repair Between
Hardy Street & Camp Street

CERTIFICATE HOLDER**CANCELLATION**

City of Hattiesburg
301 Second Ave
Hattiesburg, MS 39401

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Lee M. Bolling

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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PRODUCER
BancorpSouth Insurance Services, Inc.
Stewart Sneed Hewes - Hattiesburg
P. O. Box 1976
Hattiesburg MS 39401

CONTACT NAME: Pat Causey
PHONE (A/C, No, Ext): 601-544-8703 FAX (A/C, No): 877-288-0152
E-MAIL ADDRESS: 601-554-7300

INSURED FAIRCON-01
Fairley Construction Services, Inc.
828 Hwy 11
Petal MS 39465

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Builders Mutual Insurance Company	10844
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

COVERAGES

CERTIFICATE NUMBER: 727640960

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY						
	☐ CLAIMS-MADE ☐ OCCUR						EACH OCCURRENCE \$
							DAMAGE TO RENTED PREMISES (Ea occurrence) \$
							MED EXP (Any one person) \$
							PERSONAL & ADV INJURY \$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE \$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG \$
	OTHER:						\$
	AUTOMOBILE LIABILITY						
	☐ ANY AUTO						COMBINED SINGLE LIMIT (Ea accident) \$
	☐ ALL OWNED AUTOS						BODILY INJURY (Per person) \$
	☐ HIRED AUTOS						BODILY INJURY (Per accident) \$
	☐ SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident) \$
	☐ NON-OWNED AUTOS						\$
	UMBRELLA LIAB						EACH OCCURRENCE \$
	☐ OCCUR						AGGREGATE \$
	EXCESS LIAB						\$
	☐ CLAIMS-MADE						
	DED ☐ RETENTION \$						
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			WCP104778600	11/19/2016	11/19/2017	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	Y/N	N/A				X PER STATUTE ☐ OTH-ER ☐
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. EACH ACCIDENT \$1,000,000
							E.L. DISEASE - EA EMPLOYEE \$1,000,000
							E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Executive Officers Excluded
Gordons Creek Repair Between Hardy Street & Camp street
City of Hattiesburg

CERTIFICATE HOLDER

City of Hattiesburg
301 Second Ave.
Hattiesburg MS 39401

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Pat Causey

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
08/11/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Ted Cannon, Agent 2 Professional Parkway State Farm Petal, MS 39465 	CONTACT NAME: Ted Cannon	FAX (A/C, No, Ext): 601-582-1574	FAX (A/C, No): 601-583-4999
	E-MAIL ADDRESS: ted@tedcannon.net		
INSURED Fairley Construction Services, Inc 828 Hwy 11 Petal, MS 39465	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A: State Farm Mutual Automobile Insurance Company		25178
	INSURER B:		
	INSURER C:		
	INSURER D:		
	INSURER E:		
		INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR: WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY					EACH OCCURRENCE \$
	COMMERCIAL GENERAL LIABILITY					DAMAGE TO RENTED PREMISES (Ea occurrence) \$
	CLAIMS-MADE ☐ OCCUR ☐					MED EXP (Any one person) \$
						PERSONAL & ADV INJURY \$
						GENERAL AGGREGATE \$
	GEN'L AGGREGATE LIMIT APPLIES PER:					PRODUCTS - COMP/OP AGG \$
	POLICY ☐ PRO-JECT ☐ LOC ☐					\$
A	AUTOMOBILE LIABILITY	Y Y	114 7150 2003 Dodge	06/13/2017	12/13/2017	COMBINED SINGLE LIMIT (Ea accident) \$
	☒ ANY AUTO		096 9978 2008 Ford F350	05/02/2017	11/05/2017	BODILY INJURY (Per person) \$ 1,000,000
	☒ ALL OWNED AUTOS		106 4088 2007 Chevrolet	03/01/2017	09/01/2017	BODILY INJURY (Per accident) \$ 1,000,000
	☒ HIRED AUTOS	☒ SCHEDULED AUTOS ☒ NON-OWNED AUTOS	066 5154 2011 Chevrolet	07/16/2017	01/16/2018	PROPERTY DAMAGE (Per accident) \$ 1,000,000
						\$
	UMBRELLA LIAB					EACH OCCURRENCE \$
	EXCESS LIAB					AGGREGATE \$
	DED ☐ RETENTION \$ ☐					\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	Y/N				WC STATU-TORY LIMITS ☐ OTH-ER ☐
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? (Mandatory in NH)	☐ N/A ☐				E.L. EACH ACCIDENT \$
	If yes, describe under DESCRIPTION OF OPERATIONS below					E.L. DISEASE - EA EMPLOYEE \$
						E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Gordon's Creek Repair Between Hardy St and Camp St.

CERTIFICATE HOLDER

City of Hattiesburg
301 Second Ave
Hattiesburg, MS 39401

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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AGENCY CUSTOMER ID: _____
LOC #: _____

Cor/License
Number
17435-IMC

Page 2 of 2

ADDITIONAL REMARKS SCHEDULE

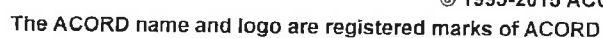
AGENCY Ted Cannon		NAMED INSURED Fairley Construction Services, Inc	
POLICY NUMBER		828 Hwy 11 Petal, MS 39465	
CARRIER State Farm Mutual Automobile Insurance Company	NAIC CODE 25178	EFFECTIVE DATE: 08/11/2017	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 FORM TITLE:

Additional Vehicles:

1999 Chevrolet G1500 Van	167 5934	06/20/2017 to 12/20/2017
2015 Ford F250	245 9881	06/20/2017 to 12/20/2017
2015 Ford F250	245 9882	06/20/2017 to 12/20/2017
2015 Ford F150	245 9639	06/20/2017 to 12/20/2017



NOTICE OF AWARD

TO: Fairley Construction
828 Hwy 11
Petal, MS 39465

Project: GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated June 9, 2017, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$ 528,525.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20__.

CITY OF HATTIESBURG, MS
OWNER

BY: _____

TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by This the _____ day of _____, 20__.

Name: [Signature]

Title: President

NOTICE TO PROCEED

TO: Fairley Construction
828 Hwy 11
Petal, MS 39465

DATE: _____

Project: **GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET**

You are hereby notified to commence WORK in accordance with the Agreement dated

_____, 20__ on or before _____, 20__, and you are to complete the WORK within 60 consecutive CALENDER DAYS thereafter. The date of completion of all WORK is therefore _____, 20__.

CITY OF
HATTIESBURG, MS
OWNER

BY: _____

TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____ This the _____ day of _____, 20__.

Name: [Signature]

Title: President

GENERAL CONDITIONS

Wherever used in these “General Conditions” or in the other contract documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:

Acceptance: Acceptance by the owner of the work as being fully complete in accordance with the contract documents.

Agreement: The written agreement between the owner and the contractor covering the work to be performed; the contract documents, which are attached to and made a part of the agreement, also designated as the contract.

Addenda: Written or graphic instruments issued prior to the execution of the agreement, which modify and/or interpret any or all part thereof of the contract documents, drawings and specifications by addition, deletions, clarifications, and/or corrections.

Application for Payment: The form furnished by the engineer, which is to be used by the contractor in requesting progress payments. The “Application for Payment” form is submitted along with an affidavit by the contractor that progress payments theretofore received from the owner on account for completed work have been applied by the contractor to discharge in full all of the contractor’s obligations stated in prior “Application(s) for Payment.”

Approval: Accepts as satisfactory.

Bid: The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the work to be performed.

Bidder: Any person, firm, or corporation submitting a bid for the work.

Bonds: Bid, performance, and payment bonds and other instruments of security furnished by the contractor and contractor’s surety in accordance with the contract documents and in accordance with the law of the place/location of the project.

Change Order: A written order to the contractor signed by the owner authorizing an addition to, deletion of, or revision in the work, or an adjustment in the contract price or the contract time issued after execution of the agreement.

Contract Documents: “Advertisement for Bids; Instructions for Bidders; Contractor’s Bid; Bid Bond; Contract Agreement; General Conditions; Supplemental General Conditions; Technical Specifications; Payment Bond; Performance Bond; Notice of Award; Notice to Proceed; Change Order, and Drawings.”

Contract Price: The total moneys payable to the contractor under the contract documents.

Contract Time: The number of calendar days stated in the agreement for the completion of the work.

Contracting Officer: The individual who is authorized to sign the contract documents on behalf of the owner's governing body. The contracting officer is also known as the "Owner's Recipient."

Contractor: The person, firm, or corporation with whom/which the owner has executed the agreement.

Day: A calendar day of twenty-four hours measured from midnight to the next midnight.

Drawings: The drawings that show the character and scope of the work to be performed that have been prepared or approved by the engineer and are referred to in the contract documents.

Engineer: The person, firm, or corporation named as such in the contract documents.

Field Order: A written order issued by the engineer which clarifies or interprets the contract documents in accordance with herein Article 9, paragraph 9.3 or orders minor changes in the work in accordance with herein Article 10, paragraph 10.2.

He, His, and Him: These are general pronouns that shall represent both male and female genders.

Modification: (a) A written amendment of the contract documents signed by both parties, (b) a change order, (c) a written clarification or interpretation issued by the engineer in accordance with herein Article 9, paragraph 9.3, or (d) a written order for a minor change or alteration in the work issued by the engineer pursuant to herein Article 10, paragraph 10.2. A modification may only be issued after execution of the agreement.

Notice of Award: The written notice by owner to the apparent successful bidder stating that upon compliance with the conditions precedent to be fulfilled by the bidder within the time specified, owner will execute and deliver the agreement to him.

Notice to Proceed: A written notice given by owner to contractor (with a copy to engineer) fixing the date on which the contract time will commence to run and on which the contractor shall start to perform said contractor's obligations under the contract documents.

Owner: A public body or authority, corporation, association, partnership, or individual for which/whom the work is to be performed.

Project: The entire construction to be performed as provided in the contract documents.

Resident Project Representative: An authorized representative of the engineer assigned to observe the work performed and materials furnished by the contractor or such other person as may be appointed by the owner as his representative. The contractor shall be notified in writing of the identity of this representative.

Shop Drawings: All drawings, diagrams, illustrations, brochures, schedules, and other data that are prepared by the contractor, a subcontractor, manufacturer, supplier, or distributor and which illustrate the equipment, material, or some portion of the work and as required by the contract documents.

Samples: Physical examples which illustrate materials, equipment, or workmanship and establish standards by which the work will be judged.

Specifications: Those portions of the contract documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the work.

Subcontractor: An individual, firm or corporation having a direct contract with contractor or with any other subcontractor for the performance of a part of the work at the site.

Substantial Completion: Substantial completion may be granted for all or portions of the work prior to final completion and stopping of contract time. Substantial completion is defined as the date when the construction is sufficiently completed in accordance with the contract documents so that the project or specified part of the project can be utilized for the purpose for which it was intended. The contract provides that the retainer may be reduced for that portion of the work for which substantial completion is granted, but the granting of substantial completion will not stop contract time or liquidated damages.

Supplemental General Conditions: Certain conditions of this contract required by the State of Mississippi, Department of Environmental Quality and by federal laws, executive orders, and regulations on projects funded by the state revolving fund loan program.

Supplier: An individual who and/or firm, corporation, or other organization that supplies materials or equipment for the work - including that which is fabricated to a special design, but does not perform labor at the site.

Special Conditions: Special conditions refer only to the work under this contract when included as a part of the contract documents.

Surety: The corporate body which is bound with the contractor and which engages to be responsible for the contractor and his acceptable performance of the work.

Work: Any and all obligations, duties, and responsibilities necessary to the successful completion of the project assigned to or undertaken by contractor under the contract documents, including all labor, materials, equipment and other incidentals, and the furnishing thereof.

Written Notice: The term "Notice" or "notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with contract requirements. Written "Notice" shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or to an authorized representative of such individual, firm or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the "Notice." Unless otherwise stated in writing, any "Notice" to or demand upon the owner under this contract shall be delivered to the owner through the engineer.

ARTICLE 2

PRELIMINARY MATTERS

2.1 Award

The award of the contract, if it is awarded, will be to the lowest responsive, responsible bidder. No "Notice of Award" will be given until the owner has concluded such investigations as he deems necessary to establish the responsibility, qualifications, and financial ability of the bidders to do the work in accordance with the contract documents to the satisfaction of the owner within the time prescribed. The owner reserves the right to reject the bid of any bidder who does not pass such investigation to the owner's satisfaction. In analyzing bids, the owner may take into consideration alternates and unit prices, if requested by the bid forms. If the contract is awarded, the owner will issue the "Notice of Award" and give the successful bidder a contract for execution within sixty (60) days after the opening of bids.

2.2 Execution of Agreement

At least three counterparts of the agreement and such other contract documents will be executed and delivered by the contractor to the owner within ten (10) calendar days of receipt from the owner.

2.3 Forfeiture of Bid Security

Failure of the successful bidder to execute and deliver the agreement and deliver the required bonds as stipulated herein in Article 2, paragraph 2.2 shall be just cause for the owner to annul the "Notice of Award" and declare the bid and any security therefore forfeited.

2.4 Contractor's Pre-Start Representations

Contractor represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the contract documents, work, locality, and with all local conditions and federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect performance of the work, and represents that he has correlated his study and observations with the requirements of the contract documents. Contractor also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the specifications and made such additional surveys and investigations as he deems necessary for the performance of the work at the contract price in accordance with the requirements of the contract documents and that he has correlated the results of all such data with the requirements of the contract documents.

2.5 Commencement of Contract Time

The contract time will commence to run no more than fifteen (15) days after issuance of the "Notice to Proceed."

2.6 Starting the Project

Contractor shall start to perform his obligations under the contract documents on the date when the contract time commences to run. No work shall be done at the site prior to the date on which the contract time commences to run, except with the written consent of the owner.

2.7 Before Starting Construction

Before undertaking each part of the work, the contractor shall carefully study and compare the contract documents and check and verify pertinent figures shown thereon and all applicable field measurements. The contractor shall at once report in writing to the engineer any conflict, error or discrepancy which he may discover; however, the contractor shall not be liable to the owner or engineer for contractor's failure to discover any conflict, error, or discrepancy in the drawings or specifications.

2.8 Schedule of Completion

Within ten (10) days after delivery of the "Notice to Proceed" by the owner to the contractor, the contractor shall submit to the engineer an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the work and a preliminary schedule of shop drawing submissions. (See herein Article 6, paragraphs 6.22 through 6.26.) The engineer shall review and return said progress

schedule or require revisions thereto within fourteen (14) days of its submittal. The responsibility for coordinating the work of all contractors shall be as provided in the special conditions if there is more than one contractor involved in a project.

2.9 Preconstruction Conference

Prior to starting the work at the site, a preconstruction conference will be held to review the above-mentioned schedules to establish procedures for handling shop drawings and other submissions, for processing applications for payment, and to establish a working understanding between the parties as to the project. Present at the conference will be the owner or owner's representative, the engineer, resident project representatives, contractor, and contractor's superintendent.

2.10 Qualification of Subcontractors, Material-Men, and Suppliers

Within ten (10) working days after bid opening, the contractor will (if required) submit to the owner and the engineer for acceptance a list of the names of subcontractors and such other persons and organizations (including those who are to furnish principal items of materials or equipment) proposed for those portions of the work to which the identity of the subcontractors and other persons and organizations must be submitted as specified in the contract documents.

Within thirty (30) working days after receiving said list, the engineer will notify the contractor in writing if either the owner or the engineer, after due investigation, has reasonable objection to any subcontractor, person, or organization on said list. The failure of the owner or the engineer to make objection to any subcontractor, person, or organization on said list within thirty (30) days of receipt shall constitute an acceptance of such subcontractor, person, or organization. Acceptance of any such subcontractor, person, or organization shall not constitute a waiver of any right of the owner or the engineer to reject defective work, material, or equipment, or any work, material, or equipment not in conformance with the requirements of the contract documents.

ARTICLE 3

CORRELATION, INTERPRETATION and INTENT of CONTRACT DOCUMENTS

3.1 Intent

It is the intent of the specifications and drawings to describe a complete project to be constructed in accordance with the contract documents. The contract documents comprise the entire agreement between the owner and the contractor. The contract documents may be altered only by a modification.

3.2 Binding of Contract Documents

The contract documents are complementary; what is called for by one is as binding as if called for by all. If the contractor finds a conflict, error, or discrepancy in the contract

documents, contractor shall call it to the engineer's attention in writing at once and before proceeding with the work affected thereby; however, contractor shall not be liable to owner or engineer for contractor's failure to discover any conflict, error, or discrepancy in the specifications or drawings. The various contract documents shall be given precedence, in case of conflict, error, or discrepancy, as follows: supplemental general conditions; agreement modifications; addenda; special conditions; information to bidders; general conditions; technical specifications, and drawings. If the requirements of other contract documents are more stringent than of the supplemental general conditions, the more stringent requirements shall apply.

3.3 Similar Words Interpretation

The words "furnish," "furnish and install," "install," and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install-- complete in place and ready for service."

3.4 Miscellaneous Items and Accessories

Miscellaneous items and accessories that are not specifically mentioned that are essential to produce a complete and properly operating installation or usable structure or plant providing the indicated function shall be furnished and installed without change in the contract price. Such miscellaneous items and accessories shall be of the same quality standards, including material, style, finish, strength, class, weight, and other applicable characteristics as specified for the major component of which the miscellaneous item or accessory is an essential part and shall be approved by the engineer before installation. The above requirement is not intended to include major components not covered by or inferable from the drawings and specifications.

3.5 Coordination of Work

The work of all trades under this contract shall be coordinated by the contractor in such a manner as to obtain the best workmanship possible for the entire project, and all components of the work shall be installed or erected in accordance with the best practices of the particular trade.

3.6 Manufacturer's Literature and Agency/Organization Codes

Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes, standard specifications, or other data published by regulating agencies or accepted organizations, including but not limited to, national electrical code, applicable state building code, federal specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of bid.

3.7 Brand Names

Brand names, where used in the technical specifications, are intended to denote the standard of quality required for the particular material or product. The term "equal" or "equivalent" when used in connection with brand names shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color, and other applicable characteristics to the material or product specified by trade name and that is suitable for the same use and capable of performing the same function in the opinion of the engineer as the material or product so specified. It shall be understood by all bidders that "or equal" products may be used for all brands specified unless specifically noted otherwise. Proposed equivalent items must be approved by the engineer before they are purchased or incorporated in the work. (When a brand name, catalog number, model number, or other identification is used without the phrase "or equal," the contractor shall assume the phrase "or equal.")

ARTICLE 4

AVAILABILITY OF LANDS; SUBSURFACE CONDITIONS; REFERENCE POINTS

4.1 Availability of Lands

The owner will furnish, as indicated in the contract documents, the lands upon which the work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the owner unless otherwise specified in the contract documents. Other access to such lands or rights-of-way for the contractor's convenience shall be the responsibility of the contractor. The contractor will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 Surveys and Test

The owner will, upon request, furnish to the bidder(s) copies of all available boundary surveys and subsurface tests at no cost.

4.3 Subsurface Conditions

The contractor acknowledges that he has investigated conditions prior to bidding and is satisfied with said conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the ground, and the character of equipment and facilities needed preliminary to and during prosecution of the work. The contractor further acknowledges that he has satisfied himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably

ascertainable from an inspection of the site, including all exploratory work done on behalf of the owner on the site or any contiguous site, as well as from information presented by the drawings and specifications made a part of this contract, or any other information made available to said contractor prior to receipt of bids. Any failure by the contractor to acquaint himself with the available information will not relieve said contractor from responsibility for estimating properly the difficulty or cost of successfully performing the work. The owner assumes no responsibility for any conclusions or interpretations made by the contractor on the basis of the information made available by the owner.

4.4 Differing Site Conditions

4.4.1 The contractor shall promptly, and before such conditions are disturbed, notify the owner in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site and/or of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The owner shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

4.4.2 No claim of the contractor under this clause shall be allowed unless the contractor has given the notice required in (a) above; provided, however, the time prescribed thereof may be extended by the owner.

4.4.3 No claim by the contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

ARTICLE 5

BONDS AND INSURANCE

5.1 Performance and Payment Bonds

The contractor's attention is directed to the instructions for bidders, the performance bond, and the payment bond as contained in the contract documents.

5.2 Contractor's Liability Insurance

The contractor shall provide the owner with insurance certificates certifying that all required liability insurance is in force, and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire, or be materially changed without giving the owner advance notice by registered mail.

5.3 Sublet Work

The contractor agrees that if any part of the work under the contract is sublet, he will require the subcontractor(s) to carry insurance as required, and that the contractor will require the subcontractor(s) to furnish to contractor insurance certificates similar to those required by the owner in above listed paragraph 5.2 (a).

5.4 Owner's Liability Insurance

The owner will be responsible for purchasing and maintaining owner's own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the contract documents.

5.5 Fire and Extended Coverage Insurance (Builders' Risk)

The contractor shall maintain, as applicable, with an insurance company or insurance companies acceptable to the owner, fire, extended coverage, and vandalism and malicious mischief insurance on buildings and structures while in the course of construction including foundations, additions, attachments and all permanent fixtures belonging to and constituting a part of said buildings or structures. The policy or policies shall also cover machinery if the cost of machinery is included in the contract. The amount of insurance must be at all times at least equal to the actual cash value of the insured property. The policy shall be in the name of the owner and the contractor, as their interests may appear, and shall also cover the interests of all subcontractors performing work.

5.6 Flood Insurance

The contractor shall maintain, as applicable, with an insurance company or insurance companies acceptable to the owner, any flood insurance made available under the US National Flood Insurance Act of 1968, as amended. This requirement applies only to insurable improvements with a value in excess of ten thousand dollars (\$10,000.00 USD) located inside the boundaries of a special flood hazard area delineated on a flood hazard boundary map or flood insurance rate map which has been issued by the Department of Housing and Urban Development and the Federal Insurance Administration. The insurance shall be in an amount at least equal to the total eligible project costs located within the flood hazard area, or to the maximum limit of coverage made available under the National Flood Insurance Act of 1968, as amended, whichever is less, for the entire life of the contract.

5.7 Evidence of Insurance

The contractor shall provide the owner with satisfactory evidence certifying that the foregoing insurance is in force, and such evidence shall include provisions that the insurance shall not be canceled, allowed to expire, or be materially changed without giving the owner advance notice by registered mail.

5.8 Cancellation and Re-Insurance

If any insurance should be canceled or changed by the insurance company or should any insurance expire during the period of this contract, the contractor shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this contract.

ARTICLE 6

CONTRACTOR'S RESPONSIBILITIES

6.1 Supervision and Superintendence

The contractor will supervise and direct the work. The contractor will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The contractor will employ and maintain on the work a qualified supervisor or superintendent who shall have been designated in writing by the contractor as the contractor's representative at the site. The supervisor shall have full authority to act on behalf of the contractor, and all communications given to the supervisor shall be as binding as if given to the contractor. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the work. (Copies of written communications given to the superintendent shall be mailed to the contractor's home office).

6.2 Labor, Materials, and Equipment

The contractor will provide competent, suitable, qualified personnel to survey and lay-out the work and perform construction as required by the contract documents. Contractor will at all times maintain good discipline and order at the site.

6.3 Contractor to Furnish

The contractor will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water, sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation, and completion of the work.

6.4 Condition of Materials and Equipment

All materials and equipment will be new except as otherwise provided in the contract documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

6.5 Materials and Equipment Specifications

All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable

manufacturer, fabricator, or processors, except as otherwise provided in the contract documents.

6.6 Materials, Equipment, Products, and Substitutions

6.6.1 Materials, equipment, and products incorporated in the work must be approved for use before being purchased by the contractor. The contractor shall submit to the engineer a list of proposed materials, equipment, or products, together with such samples as may be necessary for contractor to determine said materials, equipment or products acceptability and obtain engineer's approval within ninety (90) calendar days after award of contract unless otherwise stipulated in the special conditions. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the engineer.

6.6.2 Whenever a material, article, or piece of equipment is identified on the drawings or specifications by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance of other salient requirements and that other products of equal capacities, quality, and function shall be considered. The contractor may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the contract documents by reference to brand name or catalogue number, and if, in the opinion of the engineer, such material, article, or piece of equipment is of equal substance and function to that specified, the engineer may approve its substitution and use by the contractor. Incidental changes or extra component parts required to accommodate the substitute will be made by the contractor without a change in the contract price or contract time.

6.6.3 No substitute shall be ordered or installed without the written approval of the engineer, who shall be the judge of equality.

6.6.4 Delay caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.

6.6.5 Should any work or materials, equipment, or products not conform to requirements of the drawings and specifications or become damaged during the progress of the work, such work or materials shall be removed and replaced together with any work disarranged by such alterations at any time before completion and acceptance of the project. All such work shall be done at the expense of the contractor. (See herein Article 7, paragraph 7.10.)

6.6.6 No materials or supplies for the work shall be purchased by the contractor or by a subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The contractor warrants that he has good title to all materials and supplies used by him in the work.

6.7 Concerning Subcontractors

The contractor will not employ any subcontractor, other person, or organization of the types referred to in herein Article 2, paragraph 2.10 (whether initially or as a substitute) against whom the owner or the engineer may have reasonable objection, nor will the contractor be required to employ any subcontractor against whom contractor has reasonable objection. The contractor will not make any substitution for any subcontractor who has been accepted by the owner and the engineer unless the engineer determines there is good cause for doing so.

6.8 Contractor's Responsibility for (Direct and Indirect) Personnel

The contractor shall be fully responsible for all acts and omissions of his subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that contractor is responsible for the acts and omissions of persons directly employed by him. Nothing in the contract documents shall create any contractual relationship between owner or engineer and any subcontractor or other person or organization having a direct contract with contractor, nor shall it create any obligation on the part of owner or engineer to pay or to see to the payment of any moneys due any subcontractor or other person or organization, except as may otherwise be required by law. Owner or engineer may furnish to any subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to contractor on account of specific work done in accordance with the schedule of values.

6.9 Drawings Disassociation of Work Delegation

The divisions and sections of the specifications and the identifications of any drawings shall not control the contractor in dividing the work among subcontractors or delineating the work to be performed by any specific trade.

6.10 Binding Subcontractors to Contract

The contractor agrees to bind specifically every subcontractor to the applicable terms and conditions of the contract documents for the benefit of the owner.

6.11 Contractor and Subcontractor Agreement

All work performed for the contractor by a subcontractor shall be pursuant to an appropriate agreement between the contractor and the subcontractor.

6.12 Contractor's Responsibility When Delegating Work

6.12.1 The contractor shall be responsible for the coordination of the trades, subcontractors, and material-men engaged upon contractor's work.

6.12.2 The contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the contractor by the terms of these general conditions and other contract documents insofar as applicable to the work of subcontractors and to give the contractor the same power

as regards to terminating any subcontract that the owner may exercise over the contractor under any provisions of the contract documents.

6.12.3 The owner or engineer will not undertake to settle any differences between the contractor and his subcontractors or between subcontractors.

6.12.4 The subcontractor shall be replaced if and when directed in writing if, in the opinion of the engineer, any subcontractor on the project proves to be incompetent or otherwise unsatisfactory.

6.13 Patent Fees and Royalties

The contractor will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process, or device that is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the owner and the engineer and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorney's fees) arising out of any infringement of such rights during or after completion of the work, and shall defend all such claims in connection with any alleged infringement of such rights.

6.14 Patent Rights and Royalties

The contractor shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles, and/or systems prior to bidding. However, he shall not be responsible for such determination on systems that do not involve purchase by him of materials, appliances, and articles.

6.15 Permits

The contractor will secure and pay for all construction permits and licenses and will pay all governmental charges and inspection fees necessary that are applicable at the time of his bid for the prosecution of the work. There will be no charges to the contractor when such charges are normally made by the owner and when so stated in the special conditions. The owner shall assist the contractor, when necessary, in obtaining such permits and licenses. The contractor will also pay all public utility charges.

6.16 Laws and Regulations

The contractor will give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work. If the contractor observes that the specifications or drawings are at variance therewith, he will give the engineer prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the engineer, he will bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain

that the drawings and specifications are in accordance with such laws, ordinances, rules, and regulations.

6.17 Taxes

Cost of all sales and other taxes for which the contractor is liable under the terms of the contract shall be included in the contract price stated by the contractor.

6.18 Record Drawings

The contractor will keep one record copy of all specifications, drawings, addenda, modifications, and shop drawings at the site in good order and annotated to show all changes made during the construction process. These complete drawings shall be available to the engineer and shall be delivered to him for the owner upon completion of the project. It shall be used for this purpose only.

6.19 Safety and Protection

The contractor will be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The contractor will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury, or loss to

6.19.1 all employees on the work job and other persons who may be affected thereby;

6.19.2 all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and

6.19.3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

6.20 Preventative Measures

The contractor will designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the contractor's superintendent unless otherwise designated in writing by the contractor to the owner.

6.21 Emergencies

In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the contractor, without special instruction or authorization from the engineer or owner, is obligated to act at his discretion to prevent threatened damage, injury, or loss. He will give the engineer prompt written notice of any significant changes in the work or deviations from the contract documents caused thereby, and a change order shall thereupon be issued covering the changes and deviations involved. If the contractor believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the contract price or an

extension of the contract time, he may make a claim therefore as provided herein in Articles 11 and 12.

6.22 Shop Drawings and Samples

After checking and verifying all field measurements, the contractor will submit to the engineer for review copies (or at the engineer's option, one reproducible copy) of all shop drawings in accordance with the accepted schedule of shop drawing submissions (see herein Article 2, paragraph 2.8), which shall have been checked by and stamped with the approval of the contractor. The data shown on the shop drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the engineer to review the information as required.

6.23 Submittal of Samples

The contractor will also submit to the engineer for review, with such promptness as to cause no delay in work, all samples required by the contract documents. All samples will have been checked by and stamped with the approval of the contractor, identified clearly as to material, manufacturer and pertinent catalog numbers, and the use for which intended.

6.24 Drawing or Sample Deviations from Contract

At the time of each submission, the contractor will, in writing, bring to the engineer's attention any deviations that the shop drawings or sample may have from the requirements of the contract documents.

6.25 Engineer's Review of Submitted Drawings and Samples

The engineer will review with reasonable promptness shop drawings and samples, but his review shall be only for conformance with the design concept of the project and for compliance with the information given in the contract documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The contractor will make any corrections required by the engineer and will return the required number of corrected copies of shop drawings and resubmit new samples until the review is satisfactory to the engineer. The contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections called for by the engineer on previous submissions. The contractor's stamp of approval on any shop drawing or sample shall constitute a representation to the owner and the engineer that the contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalogue numbers and similar data, or he assumes full responsibility for doing so and that he has reviewed or coordinated each shop drawing or sample with the requirements of the work and the contract documents.

6.26 Commencement of Work of Submission(s)

No work requiring a shop drawing or sample submission shall be commenced until the submission has been reviewed and approved by the engineer. A copy of each shop

drawing and each approved sample shall be kept in good order by the contractor at the site and shall be available to the engineer.

6.27 Contractor's Responsibility of Submission(s)

The engineer's review of shop drawings or samples shall neither relieve the contractor from his responsibility for any deviations from the requirements of the contract documents unless the contractor has, in writing, called the engineer's attention to such deviation at the time of submission and the engineer has given written approval to the specific deviation, nor shall any review by the engineer relieve the contractor from responsibility for errors or omissions in the shop drawings.

6.28 Site Clean-Up

The contractor shall clean up behind the work as much as is reasonably possible as the work progresses. Upon completion of the work, and before acceptance of and final payment for the project by the owner, the contractor shall remove all his surplus and discarded materials, excavated material, and rubbish from the roadways, sidewalks, parking areas, lawns, and all adjacent property; shall clean his portion of work involved in any building under this contract so that no further cleaning by the owner is necessary prior to his occupancy; shall restore all property, both public and private, that has been disturbed or damaged during the prosecution of the work, and shall leave the whole in a neat and presentable condition.

6.29 Building Clean-Up

Clean-up operations shall consistently be carried on by the contractor at all times to keep the premises free from accumulation of waste materials and rubbish. Upon completion of the work he shall remove all rubbish, tools, scaffolding, surplus materials, etc., from the building and shall leave his work "broom clean," or its equivalent, unless more exactly specified elsewhere in the contract. The general contractor shall do the following special cleaning for all trades upon completion of the work:

6.29.1 remove putty stains and paint from and wash and polish all glass. Do not scratch or otherwise damage glass.

6.29.2 remove all marks, stains, fingerprints and other soil and dirt from painted, stained, and decorated work.

6.29.3 remove all temporary protections and clean and polish floors.

6.29.4 clean and polish all hardware for all trades; this shall include removal of all stains, dust, dirt, paint, etc.

6.30 General Clean-Up

In case of dispute, the owner may remove the rubbish and charge the cost to the several contractors as the engineer shall determine to be just.

6.31 Public Convenience and Safety

The contractor shall, at all times, conduct the work in such a manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of the work shall be provided for in a satisfactory manner consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the work in a conspicuous position at such locations as traffic demands. At any time that streets are required to be closed, the contractor shall notify law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

6.32 Sanitary Provisions

The general contractor shall furnish necessary toilet conveniences secluded from public observation for use of all personnel on the work site, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the public authorities having jurisdiction. The general contractor shall commit no public nuisance. Temporary sanitary facilities shall be removed upon completion of the work and the premises shall be left clean.

6.33 Indemnification

The contractor will indemnify and hold harmless the owner and the engineer and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of work, provided that any such claim, damage, loss or expense is (a) attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than work itself) including the loss of use resulting therefrom, and (b) caused in whole or in part by any negligent act or omission of the contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

6.34 Claims Against Owner or Engineer

In any and all claims against the owner or the engineer or any of their agents or employees, by an employee of the contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under herein Article 6, paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the contractor or any subcontractor under workmen's compensation acts, disability benefit acts, or other employees benefit acts.

6.35 Contractor's Liability Obligations

The obligations of the contractor under herein Article 6, paragraph 6.34 shall not extend to the liability of the engineer's negligent acts, errors, or omissions or those of his employees or agents.

6.36 Responsibility for Connecting to Existing Work

It shall be the express responsibility of the contractor to connect his work to each part of the existing work or work previously installed as required by the drawings and specifications to provide a complete installation.

6.37 Work in Street, Highway, and Other Rights-of-Way

Excavation, grading, fill, storm drainage, paving, and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines (either aerial, surface or subsurface), etc., shall be done in accordance with requirements of federal, state, and local laws. The owner will be responsible for obtaining all permits necessary for the work. Upon completion of the work, contractor shall present to engineer certificates, in triplicate, from the proper authorities stating that the work has been done in accordance with their requirements.

6.37.1 The owner will cooperate with the contractor in obtaining action from any utilities or public authorities involved in the above requirements.

6.37.2 The engineer shall be responsible for obtaining elevations of curbs and gutters, pavements, storm drainage structures, and other such items as soon as grading operations are begun on the site and, in any case, sufficiently early in the construction period to prevent any adverse effect on the project.

6.37.3 Any variation from the requirements of paragraph 6.37.2 above shall be stated in the "Special Conditions."

6.38 Cooperation with Governmental Departments, Public Utilities, Etc.

The contractor shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies, and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structures connected therewith that are encountered in the work so that such items may be properly shored, supported, and protected, or the contractor may relocate them if he so desires. The contractor shall give all proper notices, shall comply with requirements of such parties in the performance of his work, shall permit entrance of such parties on the project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this work.

6.38.1 The contractor's attention is called to the fact that there may be delays on the project due to work to be done by governmental departments, public utilities, and others in repairing or moving poles, conduits, etc. The contractor shall cooperate with the above parties in every way possible so that the construction can be completed in the least possible time.

6.38.2 The contractor shall have made himself familiar with all codes, laws, ordinances, and regulations that in any manner affect those engaged or employed in the work, or materials and equipment used in or upon the work, or in any way affect the conduct of the work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

6.39 Use of Premises

The contractor shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, permits, and directions of engineer and owner, and shall not unnecessarily encumber any part of the site.

6.39.1 Contractor shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the work to stresses or pressures that will endanger it.

6.39.2 Contractor shall enforce owner's instructions in connection with signs, advertisements, fires, and smoking.

6.39.3 Contractor shall arrange and cooperate with owner in routing and parking of automobiles of his employees, subcontractors and other personnel, and in routing material delivery trucks and other vehicles to the project site.

6.40 Protection of Existing Property Improvements

Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings or structures (including portions thereof), and/or trees and shrubbery not indicated on the drawings or noted in the specifications as being removed or altered shall be protected from damage during construction of the project. Any such improvements damaged during construction of the project shall be restored to a condition equal to that existing at time of award of contract.

6.41 Temporary Heat

The general contractor shall provide heat, fuel, and services as necessary to protect all work and materials within all habitable areas of permanent building construction for all contracts against injury from dampness and cold until final acceptance of all work and materials for the project --unless building is fully occupied by the owner prior to such acceptance in which case the owner shall assume all expenses of heating from date of full occupancy. In areas outside those covered above, each prime contractor shall be

responsible for providing such temporary heat, fuel, and services as required to protect his work or shall make all necessary arrangements with the general contractor for providing such temporary heat, fuel, and services. Unless otherwise specifically permitted by stated special conditions, the permanent heating system shall not be used to provide temporary heat. Contractor's proposed methods of heating shall be submitted for approval.

ARTICLE 7

WORK BY OTHERS

7.1 Additional Related Work

The owner may perform additional work related to the project by himself, or he may let other direct contracts thereof that shall contain general conditions similar to these herein. The contractor will afford the other contractors who are parties to such direct contracts (or the owner, if he is performing the additional work himself) reasonable opportunity for the introduction and storage of materials and equipment and the execution of work and shall properly connect and coordinate his work with theirs.

7.2 Report of Defects or Deficiencies

If any part of the contractor's work depends on proper execution or results upon the work of any such other contractor (or the owner), the contractor will promptly report to the engineer in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

7.3 Altering the Work of Others

The contractor will do all cutting, fitting, and patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The contractor will not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of the engineer and of the other contractors whose work will be affected.

7.4 Prior Written Notice of Additional Work

If the performance of additional work by other contractors or the owner is not noted in the contract documents prior to the execution of the contract, written notice thereof shall be given to the contractor prior to starting any such additional work. If the contractor believes that the performance of such additional work by the owner or others involves him in additional expense or entitles him to an extension of the contract time, he may make a claim as provided herein in Articles 11 and 12.

7.5 Contractor's Allowance for Work of Others

Where practicable, the general contractor shall build around the work of other separate contractors or shall leave chases, slots, and holes as required to receive and to conceal within the general construction work the work of such other separate contractors as

directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the engineer.

7.6 Necessary Alterations Not Built by General Contractor

Necessary chases, slots, and holes not built or left by the general contractor shall be cut by the separate contractor requiring such alterations after approval of the general contractor. The general contractor shall do all patching and finishing of his work where cut by other contractors at the expense of such other contractors.

7.7 Contractors Sharing of the Work Site

Cooperation is required in the use of site facilities and in the detailed execution of the work. Each contractor shall coordinate his operations with those of the other contractors for the best interest of the work in order to prevent delay in the execution thereof.

7.8 Monitoring Contractors Work

Each contractor shall keep himself informed of the progress of the work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the contractor shall notify the engineer immediately. Lack of such notice to the engineer will be construed as acceptance by the contractor for proper coordination of his own work.

7.9 Contractor's Progress of Work Notice(s)

Each contractor shall give notice(s) of the progress of his work so as to allow other contractors adequate opportunity to properly direct and coordinate their work. The general contractor shall give notice(s) of the progress of his work so that work of other contractors, when required to be concealed, may be placed before the general construction work. All such notices shall be submitted (a) to the engineer with copies to other prime contractors on the project, and (b) sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 Notice Negligence and Other Liability

The cost of extra work resulting from lack of notices, untimely notices, and failure to respond to notices, defective work, or lack of coordination shall be borne by the contractor responsible for such lack of notices, etc.

ARTICLE 8

OWNER'S RESPONSIBILITIES

8.1 Communication

The owner will issue all communications to the contractor through the engineer.

8.2 Engineer's Termination

In case of termination of the employment of the engineer, the owner will appoint an engineer against whom the contractor makes no reasonable objection and whose status under the contract documents shall be that of the former engineer. Any dispute in connection with such appointment shall be subject to arbitration, if mutually agreeable.

8.3 Prompt Payments to Contractor

The owner will promptly furnish the data required of him under the contract documents and shall promptly make payments to the contractor after they are due as provided herein in Article 14.

8.4 Owner's Duties

Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth herein in Article 4. Article 4, paragraph 4.2 refers to the owner identifying and making available to contractor copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the work, which has been relied upon by the engineer in preparing the drawings and specifications.

8.5 Owner's Liability Responsibilities

The owner's responsibilities in respect of liability and property insurance are set forth herein in Article 5, paragraph 5.4.

8.6 Owner's Right to Request Changes

In addition to owner's rights to request changes in the work in accordance with herein Article 10, the owner (especially in certain instances as provided in Article 10, paragraph 10.4) will be obligated to execute change orders.

8.7 Owner's Right to Stop or Suspend Work

In connection with the owner's right to stop or suspend work, see herein Article 15, paragraph 15.1. Article 15, paragraph 15.3 deals with the owner's right to terminate services of the contractor under certain circumstances.

8.8 Owner's Use of Completed or Partially Completed Work

The owner shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the fact that the time for completing the entire work or any portion thereof may not have expired, but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the contract documents. If such prior use increases the cost of or delays the work, the contractor shall be entitled to such extra compensation or extension of time or both, except by prior agreement as the engineer may determine.

8.9 Other Owner's Responsibility

Owner's responsibility in respect of certain inspections, tests, and approvals is set forth herein in Article 9.

ARTICLE 9

ENGINEER'S STATUS DURING CONSTRUCTION

9.1 Owner's Representative

The engineer shall be the owner's representative during the construction period. The duties and responsibilities and the limitations of authority of the engineer as the owner's representative during construction are set forth herein in Articles 1 through 17 of these "General Conditions" and shall not be extended without written consent of the owner and the engineer.

9.1.1 The engineer's decision in matters relating to aesthetics shall be final if within the terms of the contract documents.

9.1.2 Except as may be otherwise provided in this contract, all claims, counter-claims, disputes, and other matters in question between the owner and the contractor arising out of or relating to this agreement or the breach thereof will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the state in which the owner is located.

9.2 Visits to Site

The engineer will make periodic visits to the site to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the contract documents. The engineer will not be required to make continuous on-site observations to check the quality or quantity of the work. The engineer's efforts will be directed toward ascertaining on behalf of the owner that the completed project will conform to the requirements of the contract documents. On the basis of his on-site observations as an experienced and qualified design professional, he will keep the owner informed of the progress of the work and will endeavor to guard the owner against defects and deficiencies in the work of contractors.

9.3 Clarifications and Interpretations

The engineer will issue with reasonable promptness such written clarifications or interpretations of the contract documents (in the form of drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the contract documents. If the contractor believes that a written clarification and interpretation entitles him to an increase in the contract price or extension of contract time, he may make a claim thereof as provided herein in Articles 11 and 12.

9.4 Measurement of Quantities

All work completed under the contract will be measured by the engineer according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

9.5 Rejecting Defective Work

The engineer will have authority to disapprove or reject work which is "defective" (which term is hereinafter used to describe work that is unsatisfactory, faulty, or defective, does not conform to the requirements of the contract documents, does not meet the requirements of any inspection, test, or approval referred to in the special conditions, or has been damaged prior to final acceptance). The engineer will also have authority to require special inspection or testing of the work as provided in the special conditions, whether or not the work is fabricated, installed, or completed.

9.6 Shop Drawings, Change Orders, and Payments

In connection with the engineer's responsibility as to shop drawings and samples, see herein Article 6, paragraphs 6.25 through 6.27, inclusively.

9.7 Engineer's Responsibility for Change Orders

In connection with the engineer's responsibility for change orders, see herein Articles 10, 11, and 12.

9.8 Engineer's Responsibility Regarding Application for Payment

In connection with the engineer's responsibilities in respect of "Application for Payment," etc., see herein Article 14.

9.9 Resident Project Representative

The owner or the engineer will provide on-site representation sufficient to guarantee that construction is in general compliance with the construction drawings and the contract specifications.

9.10 Decisions on Disagreements

The engineer will be the initial interpreter of the terms and conditions of the contract documents and the judge of the performance thereunder. In his capacity as interpreter and judge he will exercise his best efforts to insure faithful performance by both the owner and the contractor. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes, and other matters relating to the execution and progress of the work or the interpretation of or performance under the contract documents shall be referred initially to the engineer for decision, which he shall render in writing within a reasonable time.

9.11 Right to Request Arbitration

Either the owner or the contractor, if the other agrees, may request arbitration with respect to any such claim, dispute, or other matter that has been referred to the

engineer, except any that have been waived by the making or acceptance of final payment as provided herein in **Article 14**, paragraph 14.11, and such arbitration is to be in accordance with herein **Article 16**. However, no request for arbitration of any such claim, dispute, or other matter shall be made until the earlier of (a) the date on which the engineer has rendered his decision or (b) the tenth day after the parties have presented their evidence to the engineer if the engineer has not rendered his written decision before that date. No request for arbitration shall be made later than thirty (30) days after the date on which the engineer rendered his written decision in respect of the claim, dispute, or other matter to which arbitration is sought, and the failure to request arbitration within said thirty (30) days' period shall result in the engineer's decision being final and binding upon the owner and the contractor. If the engineer renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence but shall not supersede the arbitration proceedings except where the decision is acceptable to the parties concerned.

9.12 Limitations of Engineer's Responsibilities to Contractor and Others

Neither the engineer's authority to act under this herein **Article 9** nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the engineer to the contractor, any subcontractor, any of their agents or employees or any other person performing any of the work.

9.13 Engineer's Limitations of Responsibility

The engineer will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the contractor's failure to perform the work in accordance with the contract documents.

9.14 Engineer's Limitations of Responsibility for Omissions

The engineer will not be responsible for the acts or omissions of the contractor, or any subcontractors, or any of his or their agents or employees, or any other persons performing any of the work.

ARTICLE 10

CHANGES IN WORK

10.1 Owner's Right to Initiate Change Orders

Without invalidating the agreement, the owner may, at any time or from time-to-time, order additions, deletions, or revisions in the work; these will be authorized by change orders. Upon receipt of a change order, the contractor will proceed with the work involved. All such work shall be executed under the applicable conditions of the contract documents. If any change order causes an increase or decrease in the contract price or an extension or shortening of the contract time, an equitable adjustment will be made

as provided herein in Article 11 or Article 12. A change order signed by the contractor indicates his agreement therewith.

10.2 Authorization of Minor Changes or Alterations

The engineer may authorize minor changes or alterations in the work not involving extra cost and not inconsistent with the overall intent of the contract documents. These changes and/or alterations may be accomplished by a field order. If the contractor believes that any minor change or alteration authorized by the engineer entitles him to an increase in the contract price or extension of contract time, the contractor may make a claim thereof as provided herein in Articles 11 and 12.

10.3 Unauthorized Additional Work

Additional work performed by the contractor without authorization of a change order will not entitle him to an increase in the contract price or an extension of the contract time except in the case of an emergency as provided herein in Article 6, paragraph 6.21 and except as provided herein in Article 10, paragraph 10.2.

10.4 Execution of Change Order(s)

The owner will execute appropriate change orders prepared by the engineer covering changes in the work to be performed as provided herein in Article 4, paragraph 4.4, and work performed in an emergency as provided herein in Article 6, paragraph 6.21 and any other claim of the contractor for a change in the contract time or the contract price, which is approved by the engineer.

10.5 Notification of Surety of Changes

It is the contractor's responsibility to notify his surety of any changes affecting the general scope of the work or change in the contract price and the amount of the applicable bonds shall be adjusted accordingly. The contractor will furnish proof of such adjustment to the owner.

ARTICLE 11

CHANGE OF CONTRACT PRICE

11.1 Total Compensation Payable to Contractor

The contract price constitutes the total compensation payable to the contractor for performing the work. All duties, responsibilities, and obligations assigned to or undertaken by the contractor shall be at his expense without changing the contract price.

11.2 Owner's Written and/or Verbal Change Orders

11.2.1 The owner may, at any time and without notice to the sureties, by written order designated or indicated to be a change order, make any change in the work within the general scope of the contract, including but not limited to changes: (a) in

the specifications (including drawings and designs); (b) in the method or manner of performance of the work; (c) in the owner-furnished facilities, equipment, materials, services, or site; or (d) directing acceleration in the performance of the work, and/or (e) directing the contractor to stop work for a stated time.

11.2.2 Any other written order or an oral order (which terms as used in this paragraph shall include direction, instruction, interpretation, or determination) from the owner, which causes any such change, shall be treated as a change order under this clause, provided that the contractor gives the owner written notice stating the date, circumstances, and source of the order and that the contractor regards the order as a change order.

11.2.3 Except as herein provided, no order, statement, or conduct of the owner shall be treated as a change under this clause or entitle the contractor to an equitable adjustment hereunder.

11.2.4 If any change under this clause causes an increase or decrease in the contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: Provided, however, that except for claims based on defective specifications, no claim for any change under above listed paragraph 11.2.2 shall be allowed for any costs incurred more than twenty (20) days before the contractor gives written notice as therein required. And provided further that in the case of defective specifications for which the owner is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the contractor in attempting to comply with such defective specifications.

11.2.5 If the contractor intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under above listed paragraph 11.2.1 or the furnishing of a written notice under above listed paragraph 11.2.2, submit to the owner a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the owner. The statement of claim hereunder may be included in the notice under above listed paragraph 11.2.2. If not received by the owner within 30 days, the owner may choose to reject the contractor's information relating to such claim without review.

11.2.6 No claim by the contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 Determination of Change Order Compensation

The compensation of any portion of the work covered by a change order or of any claim for an increase or decrease in the contract price shall be determined in one of the following ways:

11.3.1 where the change order involved is covered by unit prices contained in the contract documents by application of unit prices to the quantities of the items involved. Should the items (by quantity) be increased or decreased by more than 15 percent (15%) from that stipulated in the contract documents and the total dollar amount is significant (greater than ten thousand dollars [\$10,000]), either the owner or the contractor may request to negotiate a new unit price for the quantities in excess of the 15 percent (15%) window to protect their financial interest in the project.

11.3.2 by negotiated lump sum.

11.3.3 the actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 Defining "Cost of the Work"

The term "Cost of the Work" (also "Cost of Work") means the sum of all costs necessarily incurred and paid by the contractor in the proper performance of the work. Except as otherwise may be agreed to in writing by owner, such costs shall be in amounts no higher than those prevailing in the locality of the project shall include only the following items and shall not include any of the costs itemized herein in Article 11, paragraph 11.5:

11.4.1 payroll costs for employees in the direct employ of contractor in the performance of the work under schedules of job classifications agreed upon by owner and contractor. Payroll costs for employees not employed full time on the work shall be apportioned on the basis of their time spent on the work. Payroll costs shall include, but not be limited, to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation, and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday, or legal holidays shall be included in the above to the extent authorized by owner.

11.4.2 cost of all materials and equipment furnished and incorporated in the work, including costs of transportation and storage thereof, and manufacturers' field services required in connection therewith. All cash discounts shall accrue to contractor unless owner deposits funds with contractor with which to make payments, in which case the cash discounts shall accrue to owner. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to owner, and contractor shall make provisions so that they may be obtained.

11.4.3 payments made by contractor to the subcontractors for work performed by subcontractors. If required by owner, contractor shall obtain competitive bids from subcontractors acceptable to him and shall deliver such bids to owner who will then determine with the advice of engineer which bids will be accepted. If a subcontract provides that the subcontractor is to be paid on the basis of "Cost of Work" plus a fee, the cost of the work shall be determined in accordance with herein **Article 11**, paragraphs 11.4 and 11.5. All subcontracts shall be subject to the other provisions of the contract documents insofar as applicable.

11.4.4 costs of special consultants (including, but not limited to, engineers, architects, testing laboratories, surveyors, lawyers, and accountants) employed for services specifically related to the work.

11.4.5 supplemental costs including the following:

11.4.5.1 the proportion of necessary transportation, traveling, and subsistence expenses of contractor's employees incurred in discharge of duties connected with the work.

11.4.5.2 cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the site and hand tools not owned by the workmen that are consumed in the performance of the work, and cost less market value of such items used but not consumed, which remain the property of contractor.

11.4.5.3 rentals of all construction equipment and machinery and the parts thereof whether rented from contractor or others in accordance with rental agreements approved by owner with the advise of engineer, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the work.

11.4.5.4 sales, use, or similar taxes related to the work and for which contractor is liable, imposed by any governmental authority.

11.4.5.5 deposits lost for causes other than contractor's negligence, royalty payments, and fees and licenses. Costs for permits and licenses must be shown as a separate item.

11.4.5.6 losses, damages, and expenses, not compensated by insurance or otherwise, sustained by contractor in connection with the execution of, and to, the work, provided they have resulted from causes other than the negligence of contractor, any subcontractor, or anyone directly or indirectly employed by any

of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of owner. No such losses, damages, and expenses shall be included in the cost of the work for the purpose of determining contractor's fee. If, however, any such loss or damage requires reconstruction and contractor is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated herein in Article 11, paragraph 11.6.2.

11.4.5.7 the cost of utilities, fuel, and sanitary facilities at the site.

11.4.5.8 minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage, and similar petty cash items in connection with the work.

11.4.5.9 cost of premiums for additional bonds and insurance required because of changes in the work.

11.5 Limitations Regarding "Cost of Work"

The term "Cost of Work" shall not include any of the following:

11.5.1 payroll costs and other compensation of contractor's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by contractor, whether at the site, or in his principal, or a branch office for general administrator of the work and not specifically included in the schedule referred to herein in Article 11, subparagraph 11.4.1 - all of which are to be considered administrative costs covered by the contractor's fee.

11.5.2 expenses of contractor's principal and branch offices other than his office at the site.

11.5.3 any part of contractor's capital expenses, including interest on contractor's capital employed for the work and charges against contractor for delinquent payments.

11.5.4 cost of premiums for all bonds and for all insurance policies whether or not contractor is required by the contract documents to purchase and maintain the same (except as otherwise provided herein in Article 11, subparagraph 11.4.5.9.)

11.5.5 costs due to the negligence of contractor, any subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to the correction of defective work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

11.5.6 other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included herein in **Article 11**, paragraph 11.4.

11.6 Determining Contractor's Fee

The contractor's fee, which shall be allowed to contractor for his overhead and profit, shall be determined as follows:

11.6.1 a mutually acceptable firm, fixed price; or if none can be agreed upon,

11.6.2 a mutually acceptable fixed fee based on the estimate of the various portions of the "Cost of Work."

11.7 Credits from Contractor to Owner

The amount of credit to be allowed by contractor to owner for any such change that results in a net decrease in cost will be the amount of the actual net decrease. When both additions and credits are involved in any one charge, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.8 Itemizing Cost

Whenever the cost of any work is to be determined pursuant to herein **Article 11**, paragraphs 11.4 and 11.5, contractor will submit in form prescribed by engineer an itemized cost break-down together with supporting data.

11.9 Allowances

It is understood that the contractor has included in the contract price all allowances so named in the contract documents and shall cause the work so covered to be done by such material-men, suppliers, or subcontractors and for such sums within the limit of the allowances as the engineer may approve. Upon final payment, the contract price shall be adjusted as required and an appropriate change order issued. The contractor agrees that the original contract price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

11.9.1 These allowances shall cover the cost of the contractor less any applicable trade discount of the materials and equipment required by the allowance delivered at the site and all applicable taxes.

11.9.2 The contractor's costs for unloading and handling on the site: labor, installation costs, overhead, profit, and other expenses contemplated for the original allowance shall be included in the contract price and not in the allowance.

11.9.3 Whenever the cost as described in above listed **Article 11**, paragraph 11.9.1 is more or less than the allowance, the contract price shall be adjusted accordingly by

change order. The amount of the change order will recognize changes, if any, in handling costs on the site: labor, installation costs, overhead, profit, and other expenses except that whenever unit price allowances are stipulated for brick, the change order will not include any cost as described in above listed **Article 11**, paragraph 11.5.

ARTICLE 12

CHANGE OF CONTRACT TIME

12.1 Contract Time Change Order

The contract time may only be changed by a change order. Any claim for an extension in the contract time shall be based on written notice delivered to owner and engineer within ten (10) days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five (45) days of such occurrence unless engineer allows an additional period of time to ascertain more accurate data. All claims for adjustment in the contract time shall be determined by engineer if owner and contractor cannot otherwise agree. Any change in the contract time resulting from any such claim shall be incorporated in a change order.

12.2 Extended Contract Time Requirements

The contract time will be extended in an amount equal to time lost due to delays beyond the control of contractor if he makes a claim therefore as provided herein in **Article 12**, paragraph 12.1. Such delays shall include, but not be restricted to acts or neglect by any separate contractor employed by owner, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3 Binding Time Limits

All time limits stated in the contract documents are of the essence of the agreement. The provisions of this herein **Article 12** shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party.

12.4 Claims Due to Drawing(s) Delays

No claim for delay shall be allowed because of failure to furnish drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

12.5 Other Damage Recovery Rights

This **Article 12** does not exclude the recovery of damages for delay by either party under other provisions in the contract documents.

ARTICLE 13

GUARANTY

Contractor's Guaranty Requirements

The contractor shall guarantee all materials and equipment furnished and work performed for a period of one (1) year from the date of substantial completion. The contractor warrants and guarantees for a period of one (1) year from the date of substantial completion of the system that the completed system is free from all defects due to faulty materials or workmanship and the contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The owner will give notice of observed defects with reasonable promptness. In the event that the contractor should fail to make such repairs, adjustments, or the work that may be made necessary by such defects, the owner may do so and charge the contractor the cost thereby incurred. The performance bond shall remain in full force and effect through the guarantee period.

ARTICLE 14

PAYMENTS AND COMPLETION

14.1 Payments to Contractor

At least ten (10) days before each progress payment falls due (but not more often than once a month), the contractor will submit to the engineer a partial payment estimate filled out and signed by the contractor covering the work performed during the period covered by the partial payment estimate and supported by such data as the engineer may reasonably require. If a payment is requested on the basis of materials and equipment not incorporated in the work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the owner. The engineer will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the owner, or return the partial payment estimate to the contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the contractor may make the necessary corrections and resubmit the partial payment estimate. The owner will, within ten (10) days of presentation to him of an approved partial payment estimate, pay the contractor a progress payment on the basis of the approved partial payment estimate. The owner shall retain a portion of the amount otherwise due the contractor in accordance with Section 31-5-33 of the Mississippi Code.

14.2 Contractor's Warranty of Title

The contractor warrants and guarantees that title to all work, materials, and equipment covered by an "Application for Payment," whether incorporated in the project or not, will have passed to the owner prior to the making of the "Application for Payment" free and clear of all liens, claims, security, interests and encumbrances (hereafter in these

general conditions referred to as "Liens") and that no work, materials, or equipment covered by an "Application for Payment" will have been acquired by the contractor or by any other person performing the work at the site or furnishing materials and equipment for the project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the contractor or such other person.

14.3 Approval of Payments

The engineer's approval of any payment requested in an "Application for Payment" shall constitute a representation by him to the owner based on the engineer's on-site observations of the work in progress as an experienced and qualified design professional and on his review of the "Application for Payment" and the supporting data that the work has progressed to the point indicated; that, to the best of his knowledge, information, and belief, the quality of the work is in accordance with the contract documents (subject to an evaluation of the work is a functioning project upon substantial completion, to the results of any subsequent tests called for in the contract documents and any qualifications stated in his approval); and that the contractor is entitled to payment of the amount approved. However, by approving any such payment the engineer shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the work; or that he has reviewed the means, methods, techniques, sequences, and procedures of construction; or that he has made any examination to ascertain how or for what purpose the contractor has used the moneys paid or to be paid to him on account of the contract price; or that title to any work, materials, or equipment has passed to the owner free and clear of any liens.

14.4 Contractor's Certification Statement

The contractor shall make the following certification on each request for payment:

"I hereby certify that the labor and materials listed on this request for payment have been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location, and payment received from the last request for payment has been used to make payments to all first-tier subcontractors and suppliers except as listed below."

14.5 Engineer's Final Payment Approval

The engineer's approval of final payment shall constitute an additional representation by him to the owner that the conditions precedent to the contractor's being entitled to final payment as set forth herein in **Article 14**, paragraph 14.11 have been fulfilled.

14.6 Engineer's Right to Refuse Payment Approval

The engineer may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the owner as above listed in **Article 14**, paragraph 14.5. He may also refuse to approve any such payment, or

because of subsequently discovered evidence or the results of subsequent inspection or tests, nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the owner from loss because:

14.6.1 the work is defective, or completed work has been damaged requiring connection or replacement;

14.6.2 the work for which payment is requested cannot be verified;

14.6.3 claims or liens have been filed, or there is reasonable evidence indicating the probable filing thereof;

14.6.4 the contract price has been reduced because of modifications;

14.6.5 the owner has been required to correct defective work or complete the work in accordance herein with **Article 13**, paragraph 13.1;

14.6.6 of unsatisfactory prosecution of the work, including failure to clean up as required by herein **Article 6**, paragraphs 6.28, 6.29 and 6.30;

14.6.7 of persistent failure to cooperate with other contractors on the project and persistent failure to carry out the work in accordance with the contract documents;

14.6.8 of liquidated damages payable by the contractor; or

14.6.9 of any other violation of or failure to comply with the provisions of the contract documents.

14.7 Owner's Use of Completed or Partially Completed Work

Prior to substantial completion, the owner, with the approval of the engineer and with the concurrence of the contractor, may use any completed or substantially completed portions of the work. Such use shall not constitute an acceptance of such portions of the work.

14.8 Owner's Right to Entry

The owner shall have the right to enter the premises for the purpose of doing work not covered by the contract documents. This provision shall not be construed as relieving the contractor of the sole responsibility for the care and protection of the work or the restoration of any damaged work except such as may be caused by agents or employees of the owner.

14.9 Engineer's Certificate

Upon completion and acceptance of the work the engineer shall issue a certificate attached to the final payment request that the work has been accepted by him under the conditions of the contract documents. The entire balance found to be due the contractor including the retained percentages, but except such sums as may be lawfully retained by the owner, shall be paid to the contractor within sixty (60) days of completion and acceptance of the work.

14.10 Contractor's Indemnification Requirements to Owner

The contractor will indemnify and save the owner or the owner's agents harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, material-men, and furnishes of machinery and parts thereof, equipment, tools, and all supplies incurred in the furtherance of the performance of the work. The contractor shall, at the owner's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the contractor fails to do so, the owner may, after having notified the contractor, either pay unpaid bills or withhold from the contractor's pay from the contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the contractor shall be resumed in accordance with the terms of the contract documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the owner to either the contractor, his surety, or any third party. In paying any unpaid bills of the contractor, any payment so made by the owner shall be considered as a payment made under the contract documents by the owner to the contractor and the owner shall not be liable to the contractor for any such payments made in good faith.

14.11 Acceptance of Final Payment as Release

The acceptance by the contractor of final payments shall be and operate as a release to the owner of all claims and all liability to the contractor other than claims in stated amounts as may be specifically excepted by the contractor for all things done or furnished in connection with his work and for every fact and neglect of the owner and others relating to or arising out of his work. Any payment, however, final or otherwise, shall not release the contractor or his sureties from any obligations under the contract documents or the performance bond and payment bonds.

ARTICLE 15

SUSPENSION OF WORK AND TERMINATION

15.1 Owner May Suspend Work

The owner may, at any time and without cause, suspend the work or any portion thereof for a period of not more than ninety (90) days by notice in writing to the contractor and the engineer,

which shall fix the date on which work shall be resumed. The contractor will resume the work on the date so fixed. The contractor will be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to any suspension if he makes claim therefore as provided herein in Articles 11 and 12.

15.2 Work During Inclement Weather

No work shall be done under these specifications except by permission of the owner when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the contractor, upon the direction of the owner, shall suspend all work until instructed to resume operations by the owner and the contract time shall be extended to cover the duration of the order. Work damaged during the periods of suspension due to inclement weather shall be repaired and/or replaced by the contractor. Any compensation for repairs or replacements shall be subject to approval of the owner.

15.3 Owner May Terminate

If the contractor is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the contractor or for any of his property, or if he files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workman or suitable materials or equipment, or if he repeatedly fails to make prompt payments to subcontractors or for labor, materials, and/or equipment, or he disregards laws, ordinances, rules regulations or orders of any public body having jurisdiction, or if he disregards the authority of the engineer, or if he otherwise violates any provision of the contract documents, then the owner may, without prejudice to any other right or remedy and after giving the contractor and his surety seven (7) days written notice, terminate the services of the contractor and take possession of the project and of all materials, equipment, tools, construction equipment, and machinery thereon owned by the contractor and finish the work by whatever method he may deem expedient. In such case the contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price exceeds the direct and indirect costs of completing the project, including compensation for additional professional services, such excess shall be paid to the contractor. If such costs exceed such unpaid balance, the contractor or the surety will pay the difference to the owner. Such costs incurred by the owner will be determined by the engineer and incorporated in a change order.

15.4 Rights of Owner Against Terminated Contractor

Where the contractor's services have been so terminated by the owner, said terminations shall not affect any rights of the owner against the contractor then existing or which may thereafter accrue. Any retention or payment of moneys by the owner due the contractor will not release the contractor from liability.

15.5 Owner's Right to Abandon Project

Upon seven (7) days written notice to the contractor and the engineer, the owner may, without cause and without prejudice to any other right or remedy, elect to abandon the project and

terminate the agreement. In such case, the contractor shall be paid for all work executed and any expenses sustained plus a reasonable profit.

15.6 Removal of Equipment

In the case of termination of this contract before completion for any cause whatever, the contractor, if notified to do so by the owner, shall promptly remove any part or all of his equipment and supplies from the property of the owner. Should the contractor not remove such equipment and supplies, the owner shall have the right to remove them at the expense of the contractor. Equipment and supplies shall not be construed to include such items for which the contractor has been paid in whole or in part.

15.7 Contractor May Stop Work or Terminate

If, through no act or fault of the contractor, the work is suspended for a period of more than ninety (90) days by the owner, or under an order of court or other public authority, or the engineer fails to act on any "Application for Payment" within sixty (60) days after it is submitted, or the owner fails to pay the contractor any sum approved by the engineer or awarded by arbitrators within sixty (60) days of its approval and presentation, then the contractor may, upon seven (7) days written notice to the owner and the engineer, terminate the agreement and recover from the owner payment for all work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the agreement, if the engineer has failed to act on an "Application for Payment" or the owner has failed to make any payment as aforesaid, the contractor may upon seven (7) days notice to the owner and the engineer stop the work until he has been paid all amounts then due.

15.8 Owner Furnished Equipment

In case the owner furnishes equipment to the contractor to install but fails to deliver it to the contractor as required by supplementary or special conditions, and in case such failure causes the contractor additional expense or need for extension of time, the contractor may make such claims upon the owner and obtain adjustments as provided herein.

15.9 Liquidated Damages

If the contractor shall fail to complete the work within the contract time or extension of time granted by the owner, then the contractor will pay to the owner the amount for liquidated damages as shown on his bid for each calendar day that the contractor shall be in default after the time stipulated in the contract documents.

ARTICLE 16

ARBITRATION

16.1 Arbitration Standards and Rules

All claims, disputes and other matters in question arising out of, or related to, this agreement or the breach thereof except for claims which have been waived by the making or acceptance of final payment as provided herein by Article 14, paragraph 14.11, shall be decided by arbitration, if all parties mutually agree, in accordance with the "Construction Industry Arbitration Rules of the

American Arbitration Association" then obtaining, or in a court of competent jurisdiction. This agreement so to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof. The arbitration decision must present findings of fact, conclusions of law, basis of award, and rationale.

16.2 Notice of Arbitration Requirements

Notice of the request for arbitration shall be filed in writing with the other party to the agreement and with the American Arbitration Association, if both parties mutually agree to arbitration, and a copy shall be filed with the engineer. The request for arbitration shall be made within the thirty (30) day period specified herein in **Article 9**, paragraph 9.11 where applicable, and in all other cases within a reasonable time after the claim, dispute, or other matter in question has arisen and in no event shall it be made after institution of legal or equitable proceedings based on such claim, dispute, or other matter in question would be barred by the applicable statute of limitations.

16.3 Arbitration Affects on Work

The contractor will carry on the work and maintain the progress schedule during any arbitration proceedings unless otherwise agreed by him and the owner in writing.

ARTICLE 17

MISCELLANEOUS

17.1 Recognized Delivery of Notice(s)

Whenever any provision of the contract documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended or if delivered at or sent by registered or certified mail, postage prepaid to the last business address known to him who gives the notice.

17.2 Owner's Failure to Pay Contractor

If the owner fails to make payment sixty (60) days after approval by the engineer, in addition to other remedies available to the contractor, there shall be added to each such progress payment, interest at one percent (1%) per month commencing on the first day after said payment is due and continuing until the payment is received by the contractor.

17.3 Engineer's Property

All specifications, drawings, and copies thereof furnished by the engineer shall remain the engineer's property. They shall not be used on another project, and, with the exception of those sets which have been signed in connection with the execution of the agreement, shall be returned to him on request upon completion of the project.

17.4 Non-Limiting Rights and Remedies by Herein Identified Documents

The duties and obligations imposed by these general conditions, special conditions, and supplemental general conditions and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees, and obligations imposed upon contractor and

those in the special conditions and the rights and remedies available to owner and engineer thereunder shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available to them which are otherwise imposed or available by law, by special guarantee, or be other provisions of the contract documents.

17.5 Notice of Injury or Damage Claim

Should the owner or the contractor suffer injury or damage to his/its person or property because of any error, omission or act of the other or of any of his/its employees or agents or others for whose acts he/it is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

17.6 Laws that Supersede Contract Documents

The contract documents shall be governed by the law of the place (location) of the project.

17.7 Practicable Schedule

The contractor shall within five (5) days or within such time as determined by the owner after date of commencement of work prepare and submit to the owner for approval a practicable schedule showing the order in which the contractor proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plans and equipment), and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate approximately the percentage of work scheduled for completion at any time. The contractor shall enter on the chart the actual progress at such intervals as directed by the owner and shall immediately deliver to the owner three (3) copies thereof. If the contractor fails to submit a progress schedule within the time herein prescribed, the owner may withhold approval of progress payment estimates until such time as the contractor submits the required progress schedule.

17.8 Falling behind the Progress Schedule

If, in the opinion of the owner, the contractor falls behind the progress schedule, the contractor shall take such steps as may be necessary to improve his progress and the owner may require him to increase the number of shifts or overtime operations, days of work, or the amount of construction plant, or update the progress schedule to reflect increased production for meeting the completion date, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the owner.

17.9 Failure of Contractor to Comply with Owner Requirements

Failure of the contractor to comply with the requirements of the owner under this provision shall be grounds for determination by the owner that the contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination, the owner may terminate the contractor's right to proceed with the work or any separable part thereof in accordance with the clause of the contract entitled, "Termination for Default-Damages for Delay - Time Extensions."

17.10 Failure to Complete the Work on Time

Should the contractor fail to complete the work within the specified time or within any extra time allowed under these specifications, a sum of money determined by the following schedule shall be deducted from any funds due the contractor. The owner shall have the right to recover the said sum or sums from the contractor or from the surety or from both. The amounts of these deductions are to cover the liquidated damages to the owner incurred by additional or other expenses due to the failure of the contractor to complete the work or any part of the work within the time specified, and such deductions are not to be considered penalties.

17.11 Liquidated Damages

The damages indicated in the contract documents shall be considered as liquidated damages for the loss to the owner on account of the expense due to the employment of engineers and their assistants and to any others expenses incurred after the expiration of the contract time as determined by the engineer.

17.12 Laws that Supersede Contract Documents

The contract documents shall be governed by the law of the place (location) of the project.

SUPPLEMENTAL GENERAL CONDITIONS

ARTICLE 1 - SPECIAL CONDITIONS

SCOPE AND INTENT

Special conditions shall prevail over General Conditions in case of conflict. The Contractor shall furnish all labor, materials, equipment (including fuel), tools, appliances, transportation and perform all operations in connection with the construction of, alterations to, or repair of, the building, including utilities, complete, in strict accordance with the specifications and the plans governing the construction of, alterations to, or repair of, the project.

EXAMINATION OF PREMISES

Before submitting a proposal for his work, each bidder shall be held responsible to have examined the site and satisfied himself as to the conditions under which work is to be performed.

PERMITS, TAXES, AND ORDINANCES

The Contractor shall pay for all required permits, give legal notices, and pay taxes and assessments levied in connection with this contract. Building regulations of the City of Petal Building Code shall be strictly adhered to and the contractor shall be responsible for knowledge thereof.

INSURANCES, ETC.

In addition to the requirements of the General Conditions, insurance coverage specified herein constitutes the minimum requirements and said requirements shall in no way lessen or limit the liability of the **CONTRACTOR** under the terms of the Contract. The **CONTRACTOR** shall procure and maintain at his own expense any additional kinds and amounts of insurance that, in his own judgment, may be necessary for his proper protection in the prosecution of the Work.

The **CONTRACTOR** shall carry insurance as prescribed herein and all policies shall be with companies satisfactory to the **OWNER**.

If a part of this Contract is sublet, the **CONTRACTOR** shall require each Subcontractor to carry insurance of the same kinds and in like amounts as carried by the **CONTRACTOR**.

Certificates of insurance shall state that 30 days written notice will be given to the **OWNER** before the policy is canceled or changed. No **CONTRACTOR** or Subcontractor will be allowed to start any construction work on this Contract until certificates of all insurance required herein are filed and approved by the **OWNER**. The certificates shall show the type, amount, class of operations covered, effective dates and the dates of expiration of policies. The **CONTRACTOR** shall secure and maintain in effect for the period of the Contract and pay all premiums for the following kinds and amounts of insurance.

A. Workers' Compensation and Employer's Liability Insurance

This insurance shall protect the **CONTRACTOR** against all claims under applicable

State Worker's Compensation Laws. The **CONTRACTOR** shall also be protected and shall cause each Subcontractor to be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a Worker's Compensation Law. The liability limits shall not be less than the required statutory limits for Worker's Compensation and Employer's Liability in the amount of ONE HUNDRED THOUSAND DOLLARS (\$100,000.00) for each person. This policy shall include an all states endorsement.

- B. **CONTRACTOR'S Comprehensive Public Liability and Property Damage Insurance**, covering all operations in connection with the performance of this Contract in amounts not less than the following:

Bodily injury liability in the amount of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for each person and ONE MILLION DOLLARS (\$1,000,000) for each accident and property damage liability in the amount of TWO HUNDRED FIFTY THOUSAND DOLLARS (\$250,000) for all damages arising out of the injury or destruction of property in any one accident and subject to that limit per accident a total for aggregate limit of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for all damages arising out of injury to or destruction of property during the policy period. The Comprehensive Public Liability and Property Damage policies carried by both the **CONTRACTOR** and the Subcontractors shall contain an endorsement to include the coverage of the following hazards:

- a. Explosion, collapse, and underground property damage to include any damage or destruction of property below the surface of the ground, such as wires, conduits, pipes, mains, sewers, etc., caused by the **CONTRACTOR'S** operations.
- b. The collapse of and structural injury to any building, structure or property on or adjacent to the **OWNER'S** premises or right-of-way caused by the **CONTRACTOR'S** operations in the removal of other buildings, structures, or supports, or by excavation below the surface of the ground.
- c. Contractual Liability Coverage for the Hold Harmless segments of the Contract Documents.

- C. **CONTRACTOR'S Contingent or Protective Liability and Property Damage:**

In case part of this Contract is sublet, the **CONTRACTOR** shall secure contingent or protective liability and property damage insurance to protect him from any and all claims arising from the operation of his Subcontractors in the execution of Work included in the Contract. In no case shall the amount of such protection be less than the limits of \$500,000/\$1,000,000 for Public Liability Insurance and \$500,000/\$1,000,000 for Property Damage Insurance. The coverage in each case shall be acceptable to the **OWNER**.

D. Automotive Public Liability and Property Damage

The **CONTRACTOR** shall maintain automobile public liability insurance in the amount of not less than FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for injury to one person and ONE MILLION DOLLARS (\$1,000,000) for one accident; and automobile property damage insurance in the amount of not less than FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for one accident to protect him from any and all claims arising from the use of the following:

- a. **CONTRACTOR'S** own automobiles and trucks.
- b. Hired automobiles and trucks.
- c. Automobiles and trucks owned by Subcontractors.

The aforementioned is to cover use of automobiles and trucks on and off the site of the Project.

E. OWNER'S Protective Liability Policy

The **CONTRACTOR** shall maintain **OWNER'S** Protective Liability Insurance with the **OWNER** as the named insured, and the **ENGINEER**, and their servants, agents and employees as additional insureds in amounts not less than the following:

- a. Bodily Injury in the amount of ONE MILLION DOLLARS (\$1,000,000) for each person and ONE MILLION DOLLARS (\$1,000,000) for each accident and property damage liability in the amount of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for all damages arising out of an injury or destruction of property in any one accident and subject to that limit per accident a total (or aggregate) limit of ONE MILLION DOLLARS (\$1,000,000) for all damages arising out of injury to or destruction of property during the policy period.

CLEANING UP

The Contractor shall, at all times, keep the premises free from accumulations of waste materials and at the completion of the work, shall remove all his rubbish, tools, temporary buildings, etc. from and about the site and shall leave his work "broom" clean unless more exactly specified elsewhere. All glass shall be washed and left free from stains of any nature.

GUARANTEE

The Contractor shall guarantee to City of Petal all work under this contract to be free from defects in workmanship and materials for a period of one (1) year from date of final acceptance.

BIDS

The form of proposal or an exact facsimile thereof must be used by Contractors submitting proposal for any or all of the work included in these specifications and/or the accompanying plans. The receipt of all Addenda must be acknowledged and the receipt signed by the Contractor or his duly authorized representative and attached to the proposal form when the bids are submitted.

SPECIAL INSTRUCTIONS

LIMITATIONS

During construction, care is to be taken to prevent damage to the work in place. As soon as work is completed, all work is to be thoroughly cleaned. Before completion, all damaged work is to be repaired and left in perfect condition. The Contractor will be responsible for all clean-up of the premises. All trash, etc. will be hauled away from the site, and the site left in a clean and neat condition. Alcoholic beverages of any type will not be permitted on job site.

PRODUCT/MATERIALS SUBSTITUTION

Contractor will submit prior to starting work on project any changes to materials specified. Contractor will submit all specification data, company name, and supplier of material that he wishes to substitute. All material will be evaluated. Contractor will be given approval/disapproval with five (5) days by Owner. No substitutes will be taken into consideration after work has begun, no substitutes will be allowed if Contractor does not submit specification data within time allowed.

INSPECTION

All work covered by these specifications shall be subject to inspection by Owner or his authorized representative. Contractor will coordinate with Owner for inspections as required during construction, and furnish to the Owner in writing a project schedule prior to mobilization of work at the job site.

WARRANTY

The Contractor, upon completion of the project, shall furnish one (1) year written guarantee on all materials and workmanship to begin on the date of acceptance by the Owner or the Owner's appointed representative.

SPECIFICATIONS AND DRAWINGS ARE RECIPROCAL

The specifications and drawings are intended mutually to explain each other and anything which is referred to in the specifications and not shown on the drawings shall be considered as being shown and mentioned and referred to in both of these documents. Such work shall be done and

performed accordingly. Any drawing attached to this specification form is an integral part thereof and where such drawings, if any, differ from these specifications, the specifications shall govern.

AS-BUILT DRAWINGS

Occasionally, during the course of construction, modifications and changes may occur due to site conditions, unforeseen circumstances and problems encountered. This may result in a modification of construction as originally depicted on drawings. Contractor will furnish the City of Petal a marked-up set of prints in red line of all changes and/or modifications that pertain to this contract. Drawings will be labeled. "AS-BUILT DRAWINGS".

GUARANTEES, WARRANTIES AND BONDS

1. All work will be guaranteed by the Contractor for a period of one (1) year from the date of substantial completion.
2. Wording for the notarized guarantee shall be as follows:
"We hereby guarantee all work performed by us on the above captioned project to be free from defective materials and workmanship for a period of one (1) year, or such longer period of time as may be called for in the Contract Documents for such portions of the work."
3. Guarantee Compliance:
Except as otherwise specified, all work shall be guaranteed by the Contractor and through him each sub-contractor against defects resulting from the use of inferior materials, equipment or workmanship for one (1) year from the date of substantial completion of the Contract. In case of work performed by his sub-contractors, the Contractor shall secure warranties from said sub-contractors and deliver copies of the same to the Owner upon completion of the work. If, within any guarantee period, repairs or changes are required in connection with guaranteed work which, in the Owner's opinion, are rendered necessary as the result of use of materials, equipment or workmanship which are inferior, defective or not in accordance with terms of the Contract: Contractor shall promptly upon receipt of Owner's written notice, and without expense of the Owner;
 - a. Place in satisfactory condition in every particular all such guaranteed work, correct all defects therein.
 - b. Make good all damage to the building, site, equipment or building contents which in the Owner's opinion is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with terms of the Contract.
 - c. Make good any work or material or the equipment and contents of building or site disturbed in fulfilling such guarantee.

In any case where fulfilling the requirements of the Contract, or any guarantee embraced in or required thereby, the Contractor disturbs any work guaranteed under another's Contract, he shall restore such disturbed work to condition satisfactory to the Owner and guarantee such restored work to the same extent as it was guaranteed under such other

contract. If the Contractor, after notice, fails to proceed promptly to comply with terms of the guarantee, the Owner may have the defects corrected and the Contractor and his surety shall be liable for all expense incurred. All special guarantees applicable to definite parts of the work that may be stipulated in the specification or other Contract Documents shall be subject to the terms of this Specification Section during the first year of the life of such special guarantees. All guarantees and warranties shall be obtained in the Owner's name and evidence thereof shall be promptly delivered to the Owner's Representative for transfer to the Owner.

CLOSE-OUT DOCUMENTS

In general documents for close out, to be submitted by the Contractor to the Owner, prior to final payment, shall be; but not limited to the following:

1. APPLICATION FOR PAYMENT: AIA Document G-702
2. CERTIFICATE OF SUBSTANTIAL COMPLETION: AIA Document G-704
3. CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS:
AIA Documents G-706 and G-706A: The Contractor shall furnish these AIA Documents complete with attached notarized full release of liens, damages, and a guarantee that all materials and labor are paid in accordance with Contract Documents with the following wording:
"WE HEREBY CERTIFY THAT ALL BILLS FOR LABOR AND MATERIALS INCORPORATED INTO THE ABOVE CAPTIONED PROJECT UNDER OUR CONTRACT HAVE BEEN PAID AND THAT THE OWNER IS RELEASED FROM ANY AND ALL CLAIMS AND/OR DAMAGES UNDER THIS CONTRACT."
4. CONSENT OF SURETY COMPANY TO FINAL PAYMENT: AIA Document G-707
To be completed in full by the Bonding Company.
5. CONTRACTOR'S NOTARIZED STATEMENT:
Notarized statement that project has been constructed in accordance with Contract Documents.
6. CONTRACTOR'S NOTARIZED STATEMENT OF GUARANTEE/S:
All work will be guaranteed by the Contractor for a period of one (1) year from the date of substantial completion. Wording will be as follows:
"WE HEREBY GUARANTEE ALL WORK PERFORMED BY US ON ABOVE CAPTIONED PROJECT TO BE FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR, OR SUCH LONGER PERIOD OF TIME AS MAY BE CALLED FOR IN THE CONTRACT DOCUMENTS FOR SUCH PORTIONS OF THE WORK."
In the case of work performed by his sub-contractors, the Contractor shall secure warranties from said sub-contractors and deliver copies of same to the Owner upon completion of work.
7. OPERATING AND MAINTENANCE MANUALS:
All manufacturer's operating instructions and maintenance manuals will be compiled in a tabbed and labeled 3-ring binder. (Furnish Owner with two (2) sets).
8. FORM W-9, PAYER'S REQUEST FOR TAXPAYER IDENTIFICATION NUMBER AND CERTIFICATION (IRS):
Form W-9 is to be completed by non-corporation contractors. Non-applicable if Contractor's firm is Incorporated.
9. FINAL CLEANING:
At close out time clean and re-clean entire work to normal level for "FIRST CLASS" maintenance/cleaning.

MEASUREMENT AND PAYMENT

Measurement and Payment for all bid items shall be in accordance with the Mississippi Standard Specifications for Road and Bridge Construction, 2004 edition.

TECHNICAL SPECIFICATIONS

1. Applicable Specifications

The Technical Specifications entitled Mississippi Standard Specifications for Road and Bridge Construction, 2004 Edition shall be the specifications applicable to this project except as for herein specified. Any testing required by those specifications for material submittal approval shall be the responsibility of the Contractor. The testing laboratory used by the Contractor shall be a laboratory certified by the Mississippi Department of Transportation and shall be approved by the Engineer. Any reference to Unit Item for pay shall be modified and paid based on the Measurement and Payment section of the specifications.

2. References Amended to mean Engineer

Any reference in the above-mentioned specifications to Commission, Director, Chief Engineer, Testing Engineer, or Project Engineer shall be amended in these specifications to mean the Engineer, or his duly authorized representative, of the City of Hattiesburg, Mississippi.



Engineering Progress

SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

**GORDON'S CREEK REPAIR BETWEEN
HARDY STREET & CAMP STREET**

FOR THE

**CITY OF HATTIESBURG
FORREST COUNTY
MISSISSIPPI**

MAY 2017



PREPARED BY:

**SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS**



Engineering Progress

SPECIFICATIONS AND CONTRACT DOCUMENTS

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MAY 2017



PREPARED BY:

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CONSULTING ENGINEERS**

Table of Contents:

ADVERTISEMENT FOR BIDS	3
INFORMATION FOR BIDDERS	5
PROPOSAL FORM	8
BID BOND	12
CONTRACT AGREEMENT	14
PAYMENT AND PERFORMANCE BOND.....	17
NOTICE OF AWARD	19
NOTICE TO PROCEED	20
GENERAL CONDITIONS	21
PRELIMINARY MATTERS	24
CORRELATION, INTERPRETATION and	26
INTENT of CONTRACT DOCUMENTS	26
AVAILABILITY OF LANDS;.....	28
SUBSURFACE CONDITIONS; REFERENCE POINTS	28
BONDS AND INSURANCE	29
CONTRACTOR'S RESPONSIBILITIES	31
WORK BY OTHERS	41
OWNER'S RESPONSIBILITIES	42
ENGINEER'S STATUS DURING CONSTRUCTION	44
CHANGES IN WORK	46
CHANGE OF CONTRACT PRICE	47
CHANGE OF CONTRACT TIME	53
GUARANTY	54
PAYMENTS AND COMPLETION	54
SUSPENSION OF WORK AND TERMINATION.....	57
ARBITRATION	59
MISCELLANEOUS.....	60
SUPPLEMENTAL GENERAL CONDITIONS	63
SPECIAL CONDITIONS	63
SCOPE AND INTENT	63
EXAMINATION OF PREMISES	63
PERMITS, TAXES, AND ORDINANCES.....	63
INSURANCES, ETC.....	63
CLEANING UP	65
GUARANTEE	65
BIDS	66
SPECIAL INSTRUCTIONS	66
LIMITATIONS.....	66
PRODUCT/MATERIALS SUBSTITUTION.....	66
INSPECTION.....	66
WARRANTY	66
SPECIFICATIONS AND DRAWINGS ARE RECIPROCAL	66
AS-BUILT DRAWINGS	67
GUARANTEES, WARRANTIES AND BONDS.....	67
CLOSE-OUT DOCUMENTS	68
MEASUREMENT AND PAYMENT	69
TECHNICAL SPECIFICATIONS	70



ADVERTISEMENT FOR BIDS

NOTICE is hereby given that the City Clerk of the City of Hattiesburg, Mississippi, will receive sealed bids until 10:00 a.m. on July 13, 2017 in the City Clerk's Office in the City Hall at 200 Forrest Street of said City for furnishing the City's requirements for the following:

GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET HATTIESBURG, MISSISSIPPI

Plans, Specifications and proposal forms may be obtained from Shows, Dearman & Waits, Inc., 301 Second Avenue, Hattiesburg, Mississippi, 39401, upon deposit of \$150.00, non-refundable. All bids must be accompanied by bid security equal to 5% of the amount of the bid, in the form of a certified check, cashier's check, or a bid bond written by a company properly licensed in Mississippi.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner EXACTLY as follows:

BID:

GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET HATTIESBURG, MISSISSIPPI

No bid may be withdrawn for a period of sixty (60) days. The lowest and best proposal received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated and Amended, and other applicable State law; but the Council reserves the right to reject any or all proposals received and to waive informalities.

PUBLISHED by Order of the Council on the 5th day of June A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: _____
Kermas Eaton, City Clerk

Publish on June 9, 2017 and June 16, 2017
City of Hattiesburg
Return PROOF to City Clerk's Office
PO Box 1898
Hattiesburg, MS 39403-18

INFORMATION FOR BIDDERS

BIDS will be received by the CITY OF HATTIESBURG, MISSISSIPPI herein called the "OWNER", at City Hall until 10:00 a.m. on July 13, 2017, and then at said office publicly opened and read aloud.

Each BID must be submitted in sealed envelope, addressed to the City of Hattiesburg, Mississippi. Each sealed envelope containing a BID must be plainly marked on the outside as BID for GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET and the envelope should bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed addressed to the Owner at P. O. Box 1898, Hattiesburg, MS 39403

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a BID BOND payable to the OWNER for five percent

(5%) of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsive, responsible BIDDERS. When the Agreement is executed the BONDS of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a BID BOND.

A PERFORMANCE BOND and a PAYMENT BOND, each in the amount of 100 percent (100%) of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dated copy of their Power of Attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period; the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible BIDDER.

All applicable Laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

FURTHER, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER is SHOWS, DEARMAN & WAITS, INC. The address of the ENGINEER is 301 2nd Avenue, Hattiesburg, MS 39401.

Fill Material and Borrow Pit Guidelines



FEMA

Fill & Borrow Pits:

- ⇒ Fill may be mined on private or publicly-owned land.
- ⇒ Fill is considered any material that is mined in Mississippi:
 - ◆ Gravel/clay gravel
 - ◆ Sand
 - ◆ Dirt
 - ◆ Soil
- ⇒ Riprap is not currently mined in Mississippi and resource verification is not required for Environmental Planning & Historic Preservation (EHP) review.
- ⇒ A Borrow Pit is a location where fill is mined.

Permitted Borrow Pits:

- ⇒ Mississippi Department of Environmental Quality (MDEQ) permitting is required for pits over four (4) acres.
- ⇒ Permitted borrow pits have received environmental reviews and clearance by the State Historic Preservation Office.
- ⇒ MDEQ maintains lists of permitted borrow pits, which are updated monthly.
- ⇒ Map of permitted mines can be viewed on the MDEQ Mine Viewer: www.geology.deq.ms.gov/mining/viewer
- ⇒ MS DOT uses only fill from permitted borrow pits.
- ⇒ Many borrow pit businesses and road repair contractors want to be eligible for MS DOT work, so they comply with permitting requirements and are permitted.
- ⇒ Upon completion of mining, borrow pits/mine sites are reclaimed.

Exempt Borrow Pits:

- ⇒ Borrow pits under 4 acres of total disturbance that are not within 1,320 feet from an existing borrow pit do not require permitting, and receive a letter of Exemption from MDEQ.
- ⇒ Exemption form: http://www.deq.state.ms.us/mdeq.ms/f/pdf/Geology_MRD9%5File/Minlog%20Form%20MRD9%20Notice%20of%20Exempt%20Operations.pdf?OpenElement

Grandfathered Borrow Pits:

- ⇒ In Mississippi, permitting laws went into effect on April 15, 1978.
- ⇒ Affected areas prior to 1978 were considered to be grandfathered.
- ⇒ MDEQ Mining and Reclamation Division will determine if a site is eligible for grandfathered status.

Unauthorized Borrow Pits:

- ⇒ Any mining operation that is not permitted, exempt or grandfathered.
- ⇒ All mines/pits must have a Storm Water Permit issued by the Office of Pollution Control.

Stockpiles:

- ⇒ Fill that has been mined then moved to another location for easy access.
- ⇒ Fill must come from Permitted, Exempt, Grandfathered sites.

Fill Material and Borrow Pit Guidelines



FEMA

MDEQ consultation to determine the status of a Borrow Pit

When an applicant cannot provide a permit or exempt number:

- ⇒ First, review MDEQ's list of permitted borrow pits at <http://geology.deq.ms.gov/mining/viewer/>.
- ⇒ If the pit is not listed on the MDEQ list of permitted borrow pits, email consultation should take place with MDEQ to determine if the site is exempt, grandfathered or unauthorized.

Project consultations with MDEQ can be made via email by contacting:

Ron Porter, Environmental Scientist, MDEQ Office of Geology, Mining & Reclamation Division

- ◆ rporter@mdcq.ms.gov (601-961-5714), or

Brandon Cummins, GIT, MDEQ Office of Geology, Mining & Reclamation Division,

- ◆ bcummins@mdcq.ms.gov (601-961-5526)

Trent Jones, PE, Office of Pollution Control, Solid Waste and Mining Branch,

- ◆ tjones@mdcq.ms.gov (601-961-5726)

Provide the following information about the borrow pit to Ron/Brandon/Trent:

- ⇒ Coordinates in Degrees, Minutes and Seconds (Decimal coordinates can be converted in ACME mapper).
- ⇒ Address, if available.
- ⇒ Name of the borrow pit and/or the company that owns the pit, or
- ⇒ The name of the contractor that is providing the fill, or
- ⇒ Identify the site (county, town or private land).

Additional information

Storm water permits:

Applicants who have a borrow pit, permitted or exempt, also must have a storm water permit.

Required permits

The Storm Water permit package can be found online at www.deq.state.ms.us by clicking "Applications & Forms" in the navigation menu on the left side of the page. The package is listed under the "Stormwater General Permit" section of forms.

Direct link:

http://www.deq.state.ms.us/index.asp/pdf/epd_MiningFormsPackage/5File/Mining_Forms_Package.pdf/OpenElement

The Surface Mining forms can be found at www.deq.state.ms.us by clicking on Mining and Reclamation Division tab under the Office of Geology. Choose Mining Forms.

PROPOSAL FORM

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 60 calendar days thereafter.

It is understood that the quantities of work listed for unit prices bid are approximate, and are intended to merely indicate the general scope of the various items entering into the complete work. It is further understood and agreed that the Owner may increase or decrease the quantities listed in the Proposal to an extent equivalent to 30% of the bid price (in dollars) and that no change in the unit prices proposed shall be occasioned thereby.

The undersigned further agrees that the unit and lump sum prices quoted include all items of work required or necessary for the accomplishment of the projected work and that these items include all work indicated on the Plans and Specifications for which no specific pay items have been established.

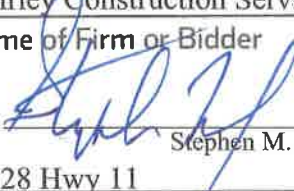
The undersigned certifies that the bid prices contained herein have been carefully checked and are submitted as correct and final.

If within sixty (60) days the scheduled closing time for receipt of bids, this Proposal is accepted, the undersigned will execute a formal contract within ten (10) days after official notification thereof, will deliver a surety bond for the faithful performance of this contract, and will complete the work within the time specified from the date of execution of the contract.

Respectfully Submitted,

Fairley Construction Services, Inc.

Name of Firm or Bidder

By: 

Stephen M. Fairley, President

828 Hwy 11

Address

Petal, MS 39465

City, State, Zip-Code

Note: All materials and components shall be a product of the U.S.A.

PROPOSAL

GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET HATTIESBURG, MISSISSIPPI

BASE BID

Pay Item No.	Pay Item	Unit	Quantity	Unit Price, (\$)	Extension, (\$)
202-B025	Removal of Concrete Paved Ditch	SY	1850	\$20.00	\$37,000.00
203-EX018	Borrow Excavation, AH, LVM, Class B9	CY	875	\$20.00	\$17,500.00
221-A001	Portland Cement Concrete Paved Ditch	CY	315	\$400.00	\$126,000.00
234-A001	Temporary Silt Fence	LF	3350	\$1.50	\$5,025.00
413-B001	Cleaning and Sealing Joints	LF	32000	\$3.50	\$112,000.00
618-A001	Maintenance of Traffic	LS	1		\$5,000.00
620-A001	Mobilization	LS	1		\$100,000.00
907-225-A001	Grassing	ACRE	1		\$5,000.00
907-226-A001	Temporary Grassing	ACRE	1		\$500.00
907-237-A003	Wattles, 20"	LF	100	\$5.00	\$500.00
907-512-B001	Portland Cement Pressure Grout Slurry, Type 1	LBS	600000	\$0.20	\$120,000.00

TOTAL, BASE BID: (\$) \$528,525.00

Base Bid Respectfully Submitted, Name of Firm or Bidder: Fairley Construction Services, Inc.

**AIA[®]****Document A310[™] – 2010*****Bid Bond*****CONTRACTOR:***(Name, legal status and address)***Fairley Construction Services, Inc.****828 Hwy 11****Petal, MS 39465****SURETY:***(Name, legal status and principal place of business)***Westfield Insurance Company****P.O. Box 5001****Westfield Center, OH 44251-5001****OWNER:***(Name, legal status and address)***City of Hattiesburg****P.O. Box 1898****Hattiesburg, MS 39401**

This document has important legal consequences.

Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

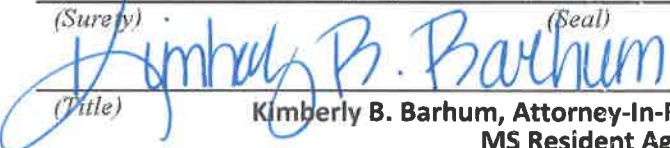
BOND AMOUNT: Five Percent (5%) of the Amount Bid-----**PROJECT:***(Name, location or address, and Project number, if any)***Gordon's Creek Repair Between Hardy Street & Camp Street****Hattiesburg, MS**

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this **13th** day of **July**, **2017**

 _____ (Witness)	Fairley Construction Services, Inc. _____ (Contractor as Principal) (Seal)  _____ (Title) Stephen M. Fairley, President
 _____ (Witness)	Westfield Insurance Company _____ (Surety) (Seal)  _____ (Title) Kimberly B. Barhum, Attorney-In-Fact MS Resident Agent

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we, the under signed,
_____ Principal, and _____ as Surety, are hereby
held and firmly bound unto _____ as Owner in the penal sum of 5%
(Five Percent) for payment of which, well and truly to be made, we hereby jointly and
severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20_____.

The Condition of the above obligation is such that whereas the Principal has submitted to
a certain BID, attached hereto and hereby made a part hereof to enter into a contract in
writing, for the following project:

**GORDON'S CREEK REPAIR BETWEEN
HARDY STREET & CAMP STREET
HATTIESBURG, MISSISSIPPI**

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in
the Form of Contract attached hereto (properly completed in accordance with said BID) and
shall furnish a BOND for his faithful performance of said contract, and for the payment of
all persons performing labor or furnishing materials in connection therewith, and shall in all
other respects perform the agreement created by the acceptance of said BID, then this
obligation shall be void, otherwise the same shall remain in force and effect; it being
expressly understood and agreed that the liability of the Surety for any and all claims
hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said
Surety and its BOND shall be in no way impaired or affected by any extension of the time
within which the OWNER may accept such BID; and said Surety does hereby waive notice
of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year set forth above.

_____(L.S.)
PRINCIPAL

SURETY

BY: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasure Department's most current line (Circular 570 as amended) and be authorized to transact business in the state where the project is located

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 03/29/16, FOR ANY PERSON OR PERSONS NAMED BELOW.

General
Power
of Attorney

CERTIFIED COPY

POWER NO. 2320202 13

Westfield Insurance Co.
Westfield National Insurance Co.
Ohio Farmers Insurance Co.
Westfield Center, Ohio

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint
DAVID R. FORTENBERRY, RICHARD T. JONES, MARY J. NORVAL, KIMBERLY B. BARHUM, JOINTLY OR SEVERALLY

of **HATTIESBURG** and State of **MS** its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings, or other instruments or contracts of suretyship** - - - - -

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY:

"Be It Resolved, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed by the President and sealed and attested by the Corporate Secretary."

"Be It Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2000).

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their **National Surety Leader and Senior Executive** and their corporate seals to be hereto affixed this **29th** day of **MARCH** A.D., **2016**.

Corporate
Seals
Affixed



WESTFIELD INSURANCE COMPANY
WESTFIELD NATIONAL INSURANCE COMPANY
OHIO FARMERS INSURANCE COMPANY

By: *Dennis P. Baus*

Dennis P. Baus, National Surety Leader and Senior Executive

State of Ohio
County of Medina ss.:

On this **29th** day of **MARCH** A.D., **2016**, before me personally came **Dennis P. Baus** to me known, who, being by me duly sworn, did depose and say, that he resides in **Wooster, Ohio**; that he is **National Surety Leader and Senior Executive** of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial
Seal
Affixed



David A. Kotnik

David A. Kotnik, Attorney at Law, Notary Public
My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

State of Ohio
County of Medina ss.:

I, **Frank A. Carrino**, Secretary of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this **13th** day of **July** A.D., **2017**



Frank A. Carrino Secretary
Frank A. Carrino, Secretary

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, 20__ by and between Fairley Construction hereinafter called the CONTRACTOR, and the CITY OF HATTIESBURG, MISSISSIPPI hereinafter called the OWNER, Witnesseth that the Contractor and the OWNER, for the consideration hereafter named and agrees as follows.

ARTICLE 1: SCOPE OF WORK

The Contractor agrees to furnish all tools, labor, equipment, materials, and supplies required to be furnished, and perform all work required under and in accordance with the plans entitled:

GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET HATTIESBURG, MISSISSIPPI

which are on file at the office of the OWNER, and the Specifications, Proposals, General and Special Conditions, attached hereto and made a part hereof as fully as though copied herein, under the direct supervision and to the entire satisfaction of the OWNER and in accordance with the Laws of the State of Mississippi.

ARTICLE 2: THE CONTRACT SUM

It is further agreed and understood by and between the parties hereunto that the OWNER agrees to pay and the Contractor agrees to accept full and final compensation for all work done under this agreement, the lump sum amount adjusted for variation of quantities at the unit prices named in the Proposal, which is hereto attached, such payment to be made in lawful money of the United States, at the time and in the manner hereinafter set forth.

ARTICLE 3: TIME OF COMPLETION

The Contractor agrees, for the consideration above expressed, to begin and complete the work within the time specified in the Proposal. If the Contractor fails to complete the work in the time specified, he shall pay the OWNER as **LIQUIDATED DAMAGES**, ascertained and agreed, and not in the nature of a penalty, the sum of \$ 350.00 for each day delayed, which shall be deducted from the final amount to be paid under the contract; provided that the extension of time with the waiver of liquidation damages may be granted as provided for in the Specifications.

ARTICLE 4: PROGRESS PAYMENTS

The owner agrees to make progress payments during the construction as provided herein as follows:

The ENGINEER will on or before the tenth (10th) day of each month make an estimate of the value of the work done, based on contract prices.

The OWNER agrees to pay the CONTRACTOR 100% of the value of the work done each month, less five percent (5%) RETAINAGE until final acceptance of the work has been made).

ARTICLE 5: ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final acceptance and inspection, the Engineer shall promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he shall promptly issue a final certificate, over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof. Then, the entire balance shall be due the Contractor within sixty (60) days the date of said final acceptance.

Before issuance of final certificate, the Contractor shall submit evidence satisfactory to the ENGINEER that all payrolls, materials, bills, and other indebtedness connected with the work have been paid.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER, other than those arising from unsettled liens, from faulty work or materials appearing within one (1) year after payment, or claims previously made and still unsettled.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Engineer, so certifies, the OWNER shall, upon certificate of the Engineer and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE 6: THE PERFORMANCE BOND

The Contractor agrees to furnish a bond, with an approved surety thereon guaranteeing the performance of this contract, in no less than one hundred percent (100%) of the amount of the Contract. Said Bond shall be conditioned on full and complete performance of the Contract, and for the payment of all labor and materials for a period of one (1) year

after completion. The Surety on said Bond shall be a surety company of financial resources satisfactory to the OWNER and authorized to do business in the State of Mississippi.

ARTICLE 7: INSURANCE

The Contractor agrees to also carry Public Liability Insurance, Property Damage Insurance, and Workman's Compensation Insurance in amounts as required by the Specifications.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

OWNERS:

SEAL

City of Hattiesburg, Mississippi

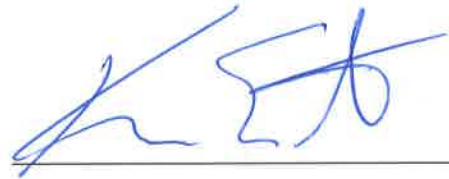
BY



Title

Mayor

ATTEST



CONTRACTOR:

SEAL

Fairley Construction Services, Inc.

BY



Title

President

ATTEST



PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: THAT WE, the Undersigned (hereinafter called the Principal), a corporation, partnership or individual duly unauthorized by law to do business as a construction contractor in the State of Mississippi, and of (herein called the Surety), a corporation duly authorized to do a surety business under the laws of the State of Mississippi, are held and firmly bound unto City of Hattiesburg, (hereinafter called the Obligee), a _____ Municipality existing under the laws of the State of Mississippi, in the penal sum of _____ Dollars (_____) lawful money of the United States, for the payment of which well and truly to be made, the said Principal and the said Surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents, as follows:

The Condition of this obligation is such that; whereas Principal by an instrument in writing attached here-to and bearing date of _____ has agreed with said Obligee to do all work necessary and to furnish labor, materials, tools, supplies and services to construct GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET as shown on Plans and specified thereby in the Specifications, Proposal and other Contract Documents hereto attached.

NOW THEREFORE, if said Principal shall well and truly in good, sufficient and workmanlike manner, and to the satisfaction of Obligee perform and complete the work required, and shall defend, indemnify and save harmless said Obligee against all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising out of injury or damage to persons or property by reason or arising from any act, omission or neglect of said Principal, his agent, servants or employees with relation to said work; and shall pay all cost, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to Obligee completed and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to Obligee by reason of any default or neglect of the said Principal in the relation of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said surety for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract, or the work to be performed hereunder, or the Specifications accompanying the same, shall in any way affect its obligation on this bond and does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

PROVIDED FURTHER, that if Principal, his or its subcontractor or subcontractors fail to duly pay for any labor, materials, team hire, sustenance provisions or any other supplies or materials used or consumed by such Principal or his, their or its subcontractors in performance of the work contracted to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest as provided by law.

IN WITNESS THEREOF: Said Principal and surety have hereunto set their hands and seals at _____ this _____ day of _____, 20__.

(SEAL)

WITNESSES:

TITLE

WITNESSES:

TITLE

PRINCIPAL

ADDRESS

Name of person executing for Principal

TITLE

SURETY

ADDRESS

Name of person executing for Surety

TITLE



AIA[®] Document A312[™] – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

Fairley Construction Services, Inc.
828 Hwy 11
Petal, MS 39465

SURETY:
(Name, legal status and principal place of business)

Westfield Insurance Company
P.O. Box 5001
Westfield Center, OH 44251-5001

OWNER:
(Name, legal status and address)

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39401

CONSTRUCTION CONTRACT
Date:

Amount: **\$528,525.00**
Description:
(Name and location)

Gordon's Creek Repair Between Hardy Street & Camp Street
Hattiesburg, MS

This document has important legal consequences.

Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

BOND
Date:
(Not earlier than Construction Contract Date)

Amount: **\$528,525.00**

Modifications to this Bond:

☒

None

☐

See Section 16

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*
Fairley Construction Services, Inc.

Signature: *[Signature]*

Name and

Title:

(Any additional signatures appear on the last page of this Performance Bond.)
SURETY

Company: *(Corporate Seal)*
Westfield Insurance Company

Signature: *[Signature]*

Name and **Kimberly B. Barhum, Attorney-in-Fact**

Title: **MS Resident Agent**
(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or BROKER:

BancorpSouth Insurance Services, Inc. *(Architect, Engineer or other party:)*

David Fortenberry
P.O. Box 1976
Hattiesburg, MS 39403-1976
601-544-8703

OWNER'S REPRESENTATIVE:

Shows, Dearman & Waits, Inc.
301 Second Ave.
Hattiesburg, MS 39401
601-544-1821

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____ *(Corporate Seal)*

Signature: N/A

Name and Title: _____

Address:

SURETY

Company: _____ *(Corporate Seal)*

Signature: N/A

Name and Title: _____

Address:

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____ *(Corporate Seal)*

Signature: N/A
Name and Title: _____
Address: _____

SURETY

Company: _____ *(Corporate Seal)*

Signature: N/A
Name and Title: _____
Address: _____

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 03/29/16, FOR ANY PERSON OR PERSONS NAMED BELOW.

POWER NO. 2320202 13

General
Power
of Attorney

Westfield Insurance Co.
Westfield National Insurance Co.
Ohio Farmers Insurance Co.
Westfield Center, Ohio

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint
DAVID R. FORTENBERRY, RICHARD T. JONES, MARY J. NORVAL, KIMBERLY B. BARHUM, JOINTLY OR SEVERALLY

of **HATTIESBURG** and State of **MS** its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings, or other instruments or contracts of suretyship-

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY:

"Be It Resolved, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-in-Fact, may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed by the President and sealed and attested by the Corporate Secretary."

"Be It Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2000).

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereto affixed this 29th day of MARCH A.D., 2016.

Corporate
Seals
Affixed



WESTFIELD INSURANCE COMPANY
WESTFIELD NATIONAL INSURANCE COMPANY
OHIO FARMERS INSURANCE COMPANY

By:
Dennis P. Baus, National Surety Leader and
Senior Executive

State of Ohio
County of Medina ss.:

On this 29th day of MARCH A.D., 2016, before me personally came **Dennis P. Baus** to me known, who, being by me duly sworn, did depose and say, that he resides in **Wooster, Ohio**; that he is **National Surety Leader and Senior Executive** of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial
Seal
Affixed



State of Ohio
County of Medina ss.:

David A. Kotnik, Attorney at Law, Notary Public
My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

I, **Frank A. Carrino**, Secretary of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this _____ day of _____ A.D., 2017.



Frank A. Carrino, Secretary



CERTIFICATE OF LIABILITY INSURANCE

FAIRLEY

OP ID: LB

DATE (MM/DD/YYYY)

08/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER The Joiner-Sigler Agency, Inc. 516 N. 13th Ave. P O Box 2982 Laurel, MS 39442-2982 Lee M. Bolling		CONTACT NAME: Lee M. Bolling PHONE (A/C, No, Ext): 601-649-1121 E-MAIL ADDRESS: leebolling@joinersigler.com FAX (A/C, No): 601-649-4130		
INSURED Fairley Construction Services, Inc 828 Hwy 11 Petal, MS 39465		INSURER(S) AFFORDING COVERAGE		NAIC #
		INSURER A : Liberty Mutual Ins		
		INSURER B :		
		INSURER C :		
		INSURER D :		
		INSURER E :		
INSURER F :				

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PROJECT ☐ LOC ☐ OTHER:			BKS57203898	03/24/2017	03/24/2018	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
A	☒ AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ HIRED AUTOS ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS			BAS57262463	05/10/2017	03/24/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	☒ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE DED ☒ RETENTION \$ 10000			ESO57203898	03/24/2017	03/24/2018	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y / N ☐ N / A						PER STATUTE ☐ OTH-ER ☐ E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

For Gordon's Creek Repair Between
Hardy Street & Camp Street

CERTIFICATE HOLDER**CANCELLATION**

City of Hattiesburg
301 Second Ave
Hattiesburg, MS 39401

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Lee M. Bolling



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/10/2017

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PRODUCER BancorpSouth Insurance Services, Inc. Stewart Sneed Hewes - Hattiesburg P. O. Box 1976 Hattiesburg MS 39401		CONTACT NAME: Pat Causey PHONE (A/C, No, Ext): 601-544-8703 FAX (A/C, No): 877-288-0152 E-MAIL ADDRESS: 601-554-7300	
INSURED Fairley Construction Services, Inc. 828 Hwy 11 Petal MS 39465		INSURER(S) AFFORDING COVERAGE INSURER A: Builders Mutual Insurance Company INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	
FAIRCON-01		NAIC # 10844	

COVERAGES

CERTIFICATE NUMBER: 727640960

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC OTHER:						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ HIRED AUTOS ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	UMBRELLA LIAB ☐ OCCUR EXCESS LIAB ☐ CLAIMS-MADE DED ☐ RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y/N Y N/A			WCP104778600	11/19/2016	11/19/2017	X PER STATUTE OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Executive Officers Excluded
Gordons Creek Repair Between Hardy Street & Camp street
City of Hattiesburg

CERTIFICATE HOLDER

City of Hattiesburg
301 Second Ave.
Hattiesburg MS 39401

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Pat Causey

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
08/11/2017

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PRODUCER Ted Cannon, Agent 2 Professional Parkway State Farm Petal, MS 39465 	CONTACT NAME: Ted Cannon	FAX (A/C, No): 601-583-4999	
	PHONE (A/C, No, Ext): 601-582-1574	E-MAIL ADDRESS: ted@tedcannon.net	
INSURED Fairley Construction Services, Inc 828 Hwy 11 Petal, MS 39465	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A: State Farm Mutual Automobile Insurance Company		25178
	INSURER B:		
	INSURER C:		
	INSURER D:		
INSURER E:			
INSURER F:			

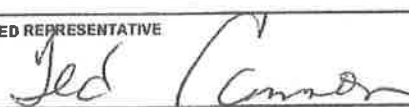
COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY						EACH OCCURRENCE \$
	COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$
	CLAIMS-MADE ☐ OCCUR ☐						MED EXP (Any one person) \$
							PERSONAL & ADV INJURY \$
							GENERAL AGGREGATE \$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG \$
	POLICY ☐ PRO-JECT ☐ LOC ☐						\$
A	AUTOMOBILE LIABILITY	Y	Y	114 7150 2003 Dodge	06/13/2017	12/13/2017	COMBINED SINGLE LIMIT (Ea accident) \$
	☒ ANY AUTO			096 9978 2008 Ford F350	05/02/2017	11/05/2017	BODILY INJURY (Per person) \$ 1,000,000
	☒ ALL OWNED AUTOS			106 4088 2007 Chevrolet	03/01/2017	09/01/2017	BODILY INJURY (Per accident) \$ 1,000,000
	☒ HIRED AUTOS			066 5154 2011 Chevrolet	07/16/2017	01/16/2018	PROPERTY DAMAGE (Per accident) \$ 1,000,000
	SCHEDULED AUTOS ☐ NON-OWNED AUTOS ☒						\$
	UMBRELLA LIAB						EACH OCCURRENCE \$
	EXCESS LIAB						AGGREGATE \$
	DED ☐ RETENTION \$ ☐						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						WC STATU-TORY LIMITS ☐ OTH-ER ☐
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? (Mandatory in NH) ☐ Y ☐ N ☐ A ☐						E.L. EACH ACCIDENT \$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$
							E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Gordon's Creek Repair Between Hardy St and Camp St.

CERTIFICATE HOLDER City of Hattiesburg 301 Second Ave Hattiesburg, MS 39401	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
---	--

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AGENCY CUSTOMER ID: _____

LOC #: _____

Cor/License
Number
17435-MC

Page 2 of 2

**ADDITIONAL REMARKS SCHEDULE**

AGENCY Ted Cannon		NAMED INSURED Fairley Construction Services, Inc	
POLICY NUMBER		828 Hwy 11 Petal, MS 39465	
CARRIER State Farm Mutual Automobile Insurance Company	NAIC CODE 25178	EFFECTIVE DATE: 08/11/2017	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: _____

Additional Vehicles:

1999 Chevrolet G1500 Van	167 5934	06/20/2017 to 12/20/2017
2015 Ford F250	245 9881	06/20/2017 to 12/20/2017
2015 Ford F250	245 9882	06/20/2017 to 12/20/2017
2015 Ford F150	245 9639	06/20/2017 to 12/20/2017

NOTICE OF AWARD

TO: Fairley Construction
828 Hwy 11
Petal, MS 39465

Project: GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated June 9, 2017, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$ 528,525.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this 5th day of September, 2017

CITY OF HATTIESBURG, MS

OWNER

BY: [Signature]

TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by This the [Signature] day of _____, 2017.

Name: [Signature]

Title: President

NOTICE TO PROCEED

TO: Fairley Construction
828 Hwy 11
Petal, MS 39465

DATE: _____

Project: **GORDON'S CREEK REPAIR BETWEEN HARDY STREET & CAMP STREET**

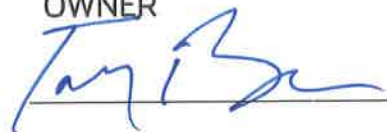
You are hereby notified to commence WORK in accordance with the Agreement dated

_____, 20__ on or before _____, 20__ and you are to complete the WORK within 60 consecutive CALENDER DAYS thereafter. The date of completion of all WORK is therefore _____, 20__.

CITY OF
HATTIESBURG, MS

OWNER

BY:



TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____ This the ____ day of _____, 20__.

Name: 

Title: President

GENERAL CONDITIONS

Wherever used in these "General Conditions" or in the other contract documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:

Acceptance: Acceptance by the owner of the work as being fully complete in accordance with the contract documents.

Agreement: The written agreement between the owner and the contractor covering the work to be performed; the contract documents, which are attached to and made a part of the agreement, also designated as the contract.

Addenda: Written or graphic instruments issued prior to the execution of the agreement, which modify and/or interpret any or all part thereof of the contract documents, drawings and specifications by addition, deletions, clarifications, and/or corrections.

Application for Payment: The form furnished by the engineer, which is to be used by the contractor in requesting progress payments. The "Application for Payment" form is submitted along with an affidavit by the contractor that progress payments theretofore received from the owner on account for completed work have been applied by the contractor to discharge in full all of the contractor's obligations stated in prior "Application(s) for Payment."

Approval: Accepts as satisfactory.

Bid: The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the work to be performed.

Bidder: Any person, firm, or corporation submitting a bid for the work.

Bonds: Bid, performance, and payment bonds and other instruments of security furnished by the contractor and contractor's surety in accordance with the contract documents and in accordance with the law of the place/location of the project.

Change Order: A written order to the contractor signed by the owner authorizing an addition to, deletion of, or revision in the work, or an adjustment in the contract price or the contract time issued after execution of the agreement.

Contract Documents: "Advertisement for Bids; Instructions for Bidders; Contractor's Bid; Bid Bond; Contract Agreement; General Conditions; Supplemental General Conditions; Technical Specifications; Payment Bond; Performance Bond; Notice of Award; Notice to Proceed; Change Order, and Drawings."

Contract Price: The total moneys payable to the contractor under the contract documents.

Contract Time: The number of calendar days stated in the agreement for the completion of the work.

Contracting Officer: The individual who is authorized to sign the contract documents on behalf of the owner's governing body. The contracting officer is also known as the "Owner's Recipient."

Contractor: The person, firm, or corporation with whom/which the owner has executed the agreement.

Day: A calendar day of twenty-four hours measured from midnight to the next midnight.

Drawings: The drawings that show the character and scope of the work to be performed that have been prepared or approved by the engineer and are referred to in the contract documents.

Engineer: The person, firm, or corporation named as such in the contract documents.

Field Order: A written order issued by the engineer which clarifies or interprets the contract documents in accordance with herein Article 9, paragraph 9.3 or orders minor changes in the work in accordance with herein Article 10, paragraph 10.2.

He, His, and Him: These are general pronouns that shall represent both male and female genders.

Modification: (a) A written amendment of the contract documents signed by both parties, (b) a change order, (c) a written clarification or interpretation issued by the engineer in accordance with herein Article 9, paragraph 9.3, or (d) a written order for a minor change or alteration in the work issued by the engineer pursuant to herein Article 10, paragraph 10.2. A modification may only be issued after execution of the agreement.

Notice of Award: The written notice by owner to the apparent successful bidder stating that upon compliance with the conditions precedent to be fulfilled by the bidder within the time specified, owner will execute and deliver the agreement to him.

Notice to Proceed: A written notice given by owner to contractor (with a copy to engineer) fixing the date on which the contract time will commence to run and on which the contractor shall start to perform said contractor's obligations under the contract documents.

Owner: A public body or authority, corporation, association, partnership, or individual for which/whom the work is to be performed.

Project: The entire construction to be performed as provided in the contract documents.

Resident Project Representative: An authorized representative of the engineer assigned to observe the work performed and materials furnished by the contractor or such other person as may be appointed by the owner as his representative. The contractor shall be notified in writing of the identity of this representative.

Shop Drawings: All drawings, diagrams, illustrations, brochures, schedules, and other data that are prepared by the contractor, a subcontractor, manufacturer, supplier, or distributor and which illustrate the equipment, material, or some portion of the work and as required by the contract documents.

Samples: Physical examples which illustrate materials, equipment, or workmanship and establish standards by which the work will be judged.

Specifications: Those portions of the contract documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the work.

Subcontractor: An individual, firm or corporation having a direct contract with contractor or with any other subcontractor for the performance of a part of the work at the site.

Substantial Completion: Substantial completion may be granted for all or portions of the work prior to final completion and stopping of contract time. Substantial completion is defined as the date when the construction is sufficiently completed in accordance with the contract documents so that the project or specified part of the project can be utilized for the purpose for which it was intended. The contract provides that the retainer may be reduced for that portion of the work for which substantial completion is granted, but the granting of substantial completion will not stop contract time or liquidated damages.

Supplemental General Conditions: Certain conditions of this contract required by the State of Mississippi, Department of Environmental Quality and by federal laws, executive orders, and regulations on projects funded by the state revolving fund loan program.

Supplier: An individual who and/or firm, corporation, or other organization that supplies materials or equipment for the work - including that which is fabricated to a special design, but does not perform labor at the site.

Special Conditions: Special conditions refer only to the work under this contract when included as a part of the contract documents.

Surety: The corporate body which is bound with the contractor and which engages to be responsible for the contractor and his acceptable performance of the work.

Work: Any and all obligations, duties, and responsibilities necessary to the successful completion of the project assigned to or undertaken by contractor under the contract documents, including all labor, materials, equipment and other incidentals, and the furnishing thereof.

Written Notice: The term "Notice" or "notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with contract requirements. Written "Notice" shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or to an authorized representative of such individual, firm or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the "Notice." Unless otherwise stated in writing, any "Notice" to or demand upon the owner under this contract shall be delivered to the owner through the engineer.

ARTICLE 2

PRELIMINARY MATTERS

2.1 Award

The award of the contract, if it is awarded, will be to the lowest responsive, responsible bidder. No "Notice of Award" will be given until the owner has concluded such investigations as he deems necessary to establish the responsibility, qualifications, and financial ability of the bidders to do the work in accordance with the contract documents to the satisfaction of the owner within the time prescribed. The owner reserves the right to reject the bid of any bidder who does not pass such investigation to the owner's satisfaction. In analyzing bids, the owner may take into consideration alternates and unit prices, if requested by the bid forms. If the contract is awarded, the owner will issue the "Notice of Award" and give the successful bidder a contract for execution within sixty (60) days after the opening of bids.

2.2 Execution of Agreement

At least three counterparts of the agreement and such other contract documents will be executed and delivered by the contractor to the owner within ten (10) calendar days of receipt from the owner.

2.3 Forfeiture of Bid Security

Failure of the successful bidder to execute and deliver the agreement and deliver the required bonds as stipulated herein in Article 2, paragraph 2.2 shall be just cause for the owner to annul the "Notice of Award" and declare the bid and any security therefore forfeited.

2.4 Contractor's Pre-Start Representations

Contractor represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the contract documents, work, locality, and with all local conditions and federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect performance of the work, and represents that he has correlated his study and observations with the requirements of the contract documents. Contractor also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the specifications and made such additional surveys and investigations as he deems necessary for the performance of the work at the contract price in accordance with the requirements of the contract documents and that he has correlated the results of all such data with the requirements of the contract documents.

2.5 Commencement of Contract Time

The contract time will commence to run no more than fifteen (15) days after issuance of the "Notice to Proceed."

2.6 Starting the Project

Contractor shall start to perform his obligations under the contract documents on the date when the contract time commences to run. No work shall be done at the site prior to the date on which the contract time commences to run, except with the written consent of the owner.

2.7 Before Starting Construction

Before undertaking each part of the work, the contractor shall carefully study and compare the contract documents and check and verify pertinent figures shown thereon and all applicable field measurements. The contractor shall at once report in writing to the engineer any conflict, error or discrepancy which he may discover; however, the contractor shall not be liable to the owner or engineer for contractor's failure to discover any conflict, error, or discrepancy in the drawings or specifications.

2.8 Schedule of Completion

Within ten (10) days after delivery of the "Notice to Proceed" by the owner to the contractor, the contractor shall submit to the engineer an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the work and a preliminary schedule of shop drawing submissions. (See herein Article 6, paragraphs 6.22 through 6.26.) The engineer shall review and return said progress

schedule or require revisions thereto within fourteen (14) days of its submittal. The responsibility for coordinating the work of all contractors shall be as provided in the special conditions if there is more than one contractor involved in a project.

2.9 Preconstruction Conference

Prior to starting the work at the site, a preconstruction conference will be held to review the above-mentioned schedules to establish procedures for handling shop drawings and other submissions, for processing applications for payment, and to establish a working understanding between the parties as to the project. Present at the conference will be the owner or owner's representative, the engineer, resident project representatives, contractor, and contractor's superintendent.

2.10 Qualification of Subcontractors, Material-Men, and Suppliers

Within ten (10) working days after bid opening, the contractor will (if required) submit to the owner and the engineer for acceptance a list of the names of subcontractors and such other persons and organizations (including those who are to furnish principal items of materials or equipment) proposed for those portions of the work to which the identity of the subcontractors and other persons and organizations must be submitted as specified in the contract documents.

Within thirty (30) working days after receiving said list, the engineer will notify the contractor in writing if either the owner or the engineer, after due investigation, has reasonable objection to any subcontractor, person, or organization on said list. The failure of the owner or the engineer to make objection to any subcontractor, person, or organization on said list within thirty (30) days of receipt shall constitute an acceptance of such subcontractor, person, or organization. Acceptance of any such subcontractor, person, or organization shall not constitute a waiver of any right of the owner or the engineer to reject defective work, material, or equipment, or any work, material, or equipment not in conformance with the requirements of the contract documents.

ARTICLE 3

CORRELATION, INTERPRETATION and INTENT of CONTRACT DOCUMENTS

3.1 Intent

It is the intent of the specifications and drawings to describe a complete project to be constructed in accordance with the contract documents. The contract documents comprise the entire agreement between the owner and the contractor. The contract documents may be altered only by a modification.

3.2 Binding of Contract Documents

The contract documents are complementary; what is called for by one is as binding as if called for by all. If the contractor finds a conflict, error, or discrepancy in the contract

documents, contractor shall call it to the engineer's attention in writing at once and before proceeding with the work affected thereby; however, contractor shall not be liable to owner or engineer for contractor's failure to discover any conflict, error, or discrepancy in the specifications or drawings. The various contract documents shall be given precedence, in case of conflict, error, or discrepancy, as follows: supplemental general conditions; agreement modifications; addenda; special conditions; information to bidders; general conditions; technical specifications, and drawings. If the requirements of other contract documents are more stringent than of the supplemental general conditions, the more stringent requirements shall apply.

3.3 Similar Words Interpretation

The words "furnish," "provide," "install," and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install-- complete in place and ready for service."

3.4 Miscellaneous Items and Accessories

Miscellaneous items and accessories that are not specifically mentioned that are essential to produce a complete and properly operating installation or usable structure or plant providing the indicated function shall be furnished and installed without change in the contract price. Such miscellaneous items and accessories shall be of the same quality standards, including material, style, finish, strength, class, weight, and other applicable characteristics as specified for the major component of which the miscellaneous item or accessory is an essential part and shall be approved by the engineer before installation. The above requirement is not intended to include major components not covered by or inferable from the drawings and specifications.

3.5 Coordination of Work

The work of all trades under this contract shall be coordinated by the contractor in such a manner as to obtain the best workmanship possible for the entire project, and all components of the work shall be installed or erected in accordance with the best practices of the particular trade.

3.6 Manufacturer's Literature and Agency/Organization Codes

Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes, standard specifications, or other data published by regulating agencies or accepted organizations, including but not limited to, national electrical code, applicable state building code, federal specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of bid.

3.7 Brand Names

Brand names, where used in the technical specifications, are intended to denote the standard of quality required for the particular material or product. The term "equal" or "equivalent" when used in connection with brand names shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color, and other applicable characteristics to the material or product specified by trade name and that is suitable for the same use and capable of performing the same function in the opinion of the engineer as the material or product so specified. It shall be understood by all bidders that "or equal" products may be used for all brands specified unless specifically noted otherwise. Proposed equivalent items must be approved by the engineer before they are purchased or incorporated in the work. (When a brand name, catalog number, model number, or other identification is used without the phrase "or equal," the contractor shall assume the phrase "or equal.")

ARTICLE 4

AVAILABILITY OF LANDS; SUBSURFACE CONDITIONS; REFERENCE POINTS

4.1 Availability of Lands

The owner will furnish, as indicated in the contract documents, the lands upon which the work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the owner unless otherwise specified in the contract documents. Other access to such lands or rights-of-way for the contractor's convenience shall be the responsibility of the contractor. The contractor will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 Surveys and Test

The owner will, upon request, furnish to the bidder(s) copies of all available boundary surveys and subsurface tests at no cost.

4.3 Subsurface Conditions

The contractor acknowledges that he has investigated conditions prior to bidding and is satisfied with said conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the ground, and the character of equipment and facilities needed preliminary to and during prosecution of the work. The contractor further acknowledges that he has satisfied himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably

ascertainable from an inspection of the site, including all exploratory work done on behalf of the owner on the site or any contiguous site, as well as from information presented by the drawings and specifications made a part of this contract, or any other information made available to said contractor prior to receipt of bids. Any failure by the contractor to acquaint himself with the available information will not relieve said contractor from responsibility for estimating properly the difficulty or cost of successfully performing the work. The owner assumes no responsibility for any conclusions or interpretations made by the contractor on the basis of the information made available by the owner.

4.4 Differing Site Conditions

4.4.1 The contractor shall promptly, and before such conditions are disturbed, notify the owner in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site and/or of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The owner shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

4.4.2 No claim of the contractor under this clause shall be allowed unless the contractor has given the notice required in (a) above; provided, however, the time prescribed thereof may be extended by the owner.

4.4.3 No claim by the contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

ARTICLE 5

BONDS AND INSURANCE

5.1 Performance and Payment Bonds

The contractor's attention is directed to the instructions for bidders, the performance bond, and the payment bond as contained in the contract documents.

5.2 Contractor's Liability Insurance

The contractor shall provide the owner with insurance certificates certifying that all required liability insurance is in force, and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire, or be materially changed without giving the owner advance notice by registered mail.

5.3 Sublet Work

The contractor agrees that if any part of the work under the contract is sublet, he will require the subcontractor(s) to carry insurance as required, and that the contractor will require the subcontractor(s) to furnish to contractor insurance certificates similar to those required by the owner in above listed paragraph 5.2 (a).

5.4 Owner's Liability Insurance

The owner will be responsible for purchasing and maintaining owner's own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the contract documents.

5.5 Fire and Extended Coverage Insurance (Builders' Risk)

The contractor shall maintain, as applicable, with an insurance company or insurance companies acceptable to the owner, fire, extended coverage, and vandalism and malicious mischief insurance on buildings and structures while in the course of construction including foundations, additions, attachments and all permanent fixtures belonging to and constituting a part of said buildings or structures. The policy or policies shall also cover machinery if the cost of machinery is included in the contract. The amount of insurance must be at all times at least equal to the actual cash value of the insured property. The policy shall be in the name of the owner and the contractor, as their interests may appear, and shall also cover the interests of all subcontractors performing work.

5.6 Flood Insurance

The contractor shall maintain, as applicable, with an insurance company or insurance companies acceptable to the owner, any flood insurance made available under the US National Flood Insurance Act of 1968, as amended. This requirement applies only to insurable improvements with a value in excess of ten thousand dollars (\$10,000.00 USD) located inside the boundaries of a special flood hazard area delineated on a flood hazard boundary map or flood insurance rate map which has been issued by the Department of Housing and Urban Development and the Federal Insurance Administration. The insurance shall be in an amount at least equal to the total eligible project costs located within the flood hazard area, or to the maximum limit of coverage made available under the National Flood Insurance Act of 1968, as amended, whichever is less, for the entire life of the contract.

5.7 Evidence of Insurance

The contractor shall provide the owner with satisfactory evidence certifying that the foregoing insurance is in force, and such evidence shall include provisions that the insurance shall not be canceled, allowed to expire, or be materially changed without giving the owner advance notice by registered mail.

5.8 Cancellation and Re-Insurance

If any insurance should be canceled or changed by the insurance company or should any insurance expire during the period of this contract, the contractor shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this contract.

ARTICLE 6

CONTRACTOR'S RESPONSIBILITIES

6.1 Supervision and Superintendence

The contractor will supervise and direct the work. The contractor will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The contractor will employ and maintain on the work a qualified supervisor or superintendent who shall have been designated in writing by the contractor as the contractor's representative at the site. The supervisor shall have full authority to act on behalf of the contractor, and all communications given to the supervisor shall be as binding as if given to the contractor. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the work. (Copies of written communications given to the superintendent shall be mailed to the contractor's home office).

6.2 Labor, Materials, and Equipment

The contractor will provide competent, suitable, qualified personnel to survey and lay-out the work and perform construction as required by the contract documents. Contractor will at all times maintain good discipline and order at the site.

6.3 Contractor to Furnish

The contractor will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water, sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation, and completion of the work.

6.4 Condition of Materials and Equipment

All materials and equipment will be new except as otherwise provided in the contract documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

6.5 Materials and Equipment Specifications

All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable

manufacturer, fabricator, or processors, except as otherwise provided in the contract documents.

6.6 Materials, Equipment, Products, and Substitutions

6.6.1 Materials, equipment, and products incorporated in the work must be approved for use before being purchased by the contractor. The contractor shall submit to the engineer a list of proposed materials, equipment, or products, together with such samples as may be necessary for contractor to determine said materials, equipment or products acceptability and obtain engineer's approval within ninety (90) calendar days after award of contract unless otherwise stipulated in the special conditions. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the engineer.

6.6.2 Whenever a material, article, or piece of equipment is identified on the drawings or specifications by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance of other salient requirements and that other products of equal capacities, quality, and function shall be considered. The contractor may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the contract documents by reference to brand name or catalogue number, and if, in the opinion of the engineer, such material, article, or piece of equipment is of equal substance and function to that specified, the engineer may approve its substitution and use by the contractor. Incidental changes or extra component parts required to accommodate the substitute will be made by the contractor without a change in the contract price or contract time.

6.6.3 No substitute shall be ordered or installed without the written approval of the engineer, who shall be the judge of equality.

6.6.4 Delay caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.

6.6.5 Should any work or materials, equipment, or products not conform to requirements of the drawings and specifications or become damaged during the progress of the work, such work or materials shall be removed and replaced together with any work disarranged by such alterations at any time before completion and acceptance of the project. All such work shall be done at the expense of the contractor. (See herein Article 7, paragraph 7.10.)

6.6.6 No materials or supplies for the work shall be purchased by the contractor or by a subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The contractor warrants that he has good title to all materials and supplies used by him in the work.

6.7 Concerning Subcontractors

The contractor will not employ any subcontractor, other person, or organization of the types referred to in herein Article 2, paragraph 2.10 (whether initially or as a substitute) against whom the owner or the engineer may have reasonable objection, nor will the contractor be required to employ any subcontractor against whom contractor has reasonable objection. The contractor will not make any substitution for any subcontractor who has been accepted by the owner and the engineer unless the engineer determines there is good cause for doing so.

6.8 Contractor's Responsibility for (Direct and Indirect) Personnel

The contractor shall be fully responsible for all acts and omissions of his subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that contractor is responsible for the acts and omissions of persons directly employed by him. Nothing in the contract documents shall create any contractual relationship between owner or engineer and any subcontractor or other person or organization having a direct contract with contractor, nor shall it create any obligation on the part of owner or engineer to pay or to see to the payment of any moneys due any subcontractor or other person or organization, except as may otherwise be required by law. Owner or engineer may furnish to any subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to contractor on account of specific work done in accordance with the schedule of values.

6.9 Drawings Disassociation of Work Delegation

The divisions and sections of the specifications and the identifications of any drawings shall not control the contractor in dividing the work among subcontractors or delineating the work to be performed by any specific trade.

6.10 Binding Subcontractors to Contract

The contractor agrees to bind specifically every subcontractor to the applicable terms and conditions of the contract documents for the benefit of the owner.

6.11 Contractor and Subcontractor Agreement

All work performed for the contractor by a subcontractor shall be pursuant to an appropriate agreement between the contractor and the subcontractor.

6.12 Contractor's Responsibility When Delegating Work

6.12.1 The contractor shall be responsible for the coordination of the trades, subcontractors, and material-men engaged upon contractor's work.

6.12.2 The contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the contractor by the terms of these general conditions and other contract documents insofar as applicable to the work of subcontractors and to give the contractor the same power

as regards to terminating any subcontract that the owner may exercise over the contractor under any provisions of the contract documents.

6.12.3 The owner or engineer will not undertake to settle any differences between the contractor and his subcontractors or between subcontractors.

6.12.4 The subcontractor shall be replaced if and when directed in writing if, in the opinion of the engineer, any subcontractor on the project proves to be incompetent or otherwise unsatisfactory.

6.13 Patent Fees and Royalties

The contractor will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process, or device that is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the owner and the engineer and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorney's fees) arising out of any infringement of such rights during or after completion of the work, and shall defend all such claims in connection with any alleged infringement of such rights.

6.14 Patent Rights and Royalties

The contractor shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles, and/or systems prior to bidding. However, he shall not be responsible for such determination on systems that do not involve purchase by him of materials, appliances, and articles.

6.15 Permits

The contractor will secure and pay for all construction permits and licenses and will pay all governmental charges and inspection fees necessary that are applicable at the time of his bid for the prosecution of the work. There will be no charges to the contractor when such charges are normally made by the owner and when so stated in the special conditions. The owner shall assist the contractor, when necessary, in obtaining such permits and licenses. The contractor will also pay all public utility charges.

6.16 Laws and Regulations

The contractor will give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work. If the contractor observes that the specifications or drawings are at variance therewith, he will give the engineer prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the engineer, he will bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain

that the drawings and specifications are in accordance with such laws, ordinances, rules, and regulations.

6.17 Taxes

Cost of all sales and other taxes for which the contractor is liable under the terms of the contract shall be included in the contract price stated by the contractor.

6.18 Record Drawings

The contractor will keep one record copy of all specifications, drawings, addenda, modifications, and shop drawings at the site in good order and annotated to show all changes made during the construction process. These complete drawings shall be available to the engineer and shall be delivered to him for the owner upon completion of the project. It shall be used for this purpose only.

6.19 Safety and Protection

The contractor will be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The contractor will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury, or loss to

6.19.1 all employees on the work job and other persons who may be affected thereby;

6.19.2 all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and

6.19.3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

6.20 Preventative Measures

The contractor will designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the contractor's superintendent unless otherwise designated in writing by the contractor to the owner.

6.21 Emergencies

In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the contractor, without special instruction or authorization from the engineer or owner, is obligated to act at his discretion to prevent threatened damage, injury, or loss. He will give the engineer prompt written notice of any significant changes in the work or deviations from the contract documents caused thereby, and a change order shall thereupon be issued covering the changes and deviations involved. If the contractor believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the contract price or an

extension of the contract time, he may make a claim therefore as provided herein in Articles 11 and 12.

6.22 Shop Drawings and Samples

After checking and verifying all field measurements, the contractor will submit to the engineer for review copies (or at the engineer's option, one reproducible copy) of all shop drawings in accordance with the accepted schedule of shop drawing submissions (see herein Article 2, paragraph 2.8), which shall have been checked by and stamped with the approval of the contractor. The data shown on the shop drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the engineer to review the information as required.

6.23 Submittal of Samples

The contractor will also submit to the engineer for review, with such promptness as to cause no delay in work, all samples required by the contract documents. All samples will have been checked by and stamped with the approval of the contractor, identified clearly as to material, manufacturer and pertinent catalog numbers, and the use for which intended.

6.24 Drawing or Sample Deviations from Contract

At the time of each submission, the contractor will, in writing, bring to the engineer's attention any deviations that the shop drawings or sample may have from the requirements of the contract documents.

6.25 Engineer's Review of Submitted Drawings and Samples

The engineer will review with reasonable promptness shop drawings and samples, but his review shall be only for conformance with the design concept of the project and for compliance with the information given in the contract documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The contractor will make any corrections required by the engineer and will return the required number of corrected copies of shop drawings and resubmit new samples until the review is satisfactory to the engineer. The contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than the corrections called for by the engineer on previous submissions. The contractor's stamp of approval on any shop drawing or sample shall constitute a representation to the owner and the engineer that the contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalogue numbers and similar data, or he assumes full responsibility for doing so and that he has reviewed or coordinated each shop drawing or sample with the requirements of the work and the contract documents.

6.26 Commencement of Work of Submission(s)

No work requiring a shop drawing or sample submission shall be commenced until the submission has been reviewed and approved by the engineer. A copy of each shop

drawing and each approved sample shall be kept in good order by the contractor at the site and shall be available to the engineer.

6.27 Contractor's Responsibility of Submission(s)

The engineer's review of shop drawings or samples shall neither relieve the contractor from his responsibility for any deviations from the requirements of the contract documents unless the contractor has, in writing, called the engineer's attention to such deviation at the time of submission and the engineer has given written approval to the specific deviation, nor shall any review by the engineer relieve the contractor from responsibility for errors or omissions in the shop drawings.

6.28 Site Clean-Up

The contractor shall clean up behind the work as much as is reasonably possible as the work progresses. Upon completion of the work, and before acceptance of and final payment for the project by the owner, the contractor shall remove all his surplus and discarded materials, excavated material, and rubbish from the roadways, sidewalks, parking areas, lawns, and all adjacent property; shall clean his portion of work involved in any building under this contract so that no further cleaning by the owner is necessary prior to his occupancy; shall restore all property, both public and private, that has been disturbed or damaged during the prosecution of the work, and shall leave the whole in a neat and presentable condition.

6.29 Building Clean-Up

Clean-up operations shall consistently be carried on by the contractor at all times to keep the premises free from accumulation of waste materials and rubbish. Upon completion of the work he shall remove all rubbish, tools, scaffolding, surplus materials, etc., from the building and shall leave his work "broom clean," or its equivalent, unless more exactly specified elsewhere in the contract. The general contractor shall do the following special cleaning for all trades upon completion of the work:

6.29.1 remove putty stains and paint from and wash and polish all glass. Do not scratch or otherwise damage glass.

6.29.2 remove all marks, stains, fingerprints and other soil and dirt from painted, stained, and decorated work.

6.29.3 remove all temporary protections and clean and polish floors.

6.29.4 clean and polish all hardware for all trades; this shall include removal of all stains, dust, dirt, paint, etc.

6.30 General Clean-Up

In case of dispute, the owner may remove the rubbish and charge the cost to the several contractors as the engineer shall determine to be just.

6.31 Public Convenience and Safety

The contractor shall, at all times, conduct the work in such a manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of the work shall be provided for in a satisfactory manner consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the work in a conspicuous position at such locations as traffic demands. At any time that streets are required to be closed, the contractor shall notify law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

6.32 Sanitary Provisions

The general contractor shall furnish necessary toilet conveniences secluded from public observation for use of all personnel on the work site, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the public authorities having jurisdiction. The general contractor shall commit no public nuisance. Temporary sanitary facilities shall be removed upon completion of the work and the premises shall be left clean.

6.33 Indemnification

The contractor will indemnify and hold harmless the owner and the engineer and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of work, provided that any such claim, damage, loss or expense is (a) attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than work itself) including the loss of use resulting therefrom, and (b) caused in whole or in part by any negligent act or omission of the contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

6.34 Claims Against Owner or Engineer

In any and all claims against the owner or the engineer or any of their agents or employees, by an employee of the contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under herein Article 6, paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the contractor or any subcontractor under workmen's compensation acts, disability benefit acts, or other employees benefit acts.

6.35 Contractor's Liability Obligations

The obligations of the contractor under herein Article 6, paragraph 6.34 shall not extend to the liability of the engineer's negligent acts, errors, or omissions or those of his employees or agents.

6.36 Responsibility for Connecting to Existing Work

It shall be the express responsibility of the contractor to connect his work to each part of the existing work or work previously installed as required by the drawings and specifications to provide a complete installation.

6.37 Work in Street, Highway, and Other Rights-of-Way

Excavation, grading, fill, storm drainage, paving, and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines (either aerial, surface or subsurface), etc., shall be done in accordance with requirements of federal, state, and local laws. The owner will be responsible for obtaining all permits necessary for the work. Upon completion of the work, contractor shall present to engineer certificates, in triplicate, from the proper authorities stating that the work has been done in accordance with their requirements.

6.37.1 The owner will cooperate with the contractor in obtaining action from any utilities or public authorities involved in the above requirements.

6.37.2 The engineer shall be responsible for obtaining elevations of curbs and gutters, pavements, storm drainage structures, and other such items as soon as grading operations are begun on the site and, in any case, sufficiently early in the construction period to prevent any adverse effect on the project.

6.37.3 Any variation from the requirements of paragraph 6.37.2 above shall be stated in the "Special Conditions."

6.38 Cooperation with Governmental Departments, Public Utilities, Etc.

The contractor shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies, and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structures connected therewith that are encountered in the work so that such items may be properly shored, supported, and protected, or the contractor may relocate them if he so desires. The contractor shall give all proper notices, shall comply with requirements of such parties in the performance of his work, shall permit entrance of such parties on the project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this work.

6.38.1 The contractor's attention is called to the fact that there may be delays on the project due to work to be done by governmental departments, public utilities, and others in repairing or moving poles, conduits, etc. The contractor shall cooperate with the above parties in every way possible so that the construction can be completed in the least possible time.

6.38.2 The contractor shall have made himself familiar with all codes, laws, ordinances, and regulations that in any manner affect those engaged or employed in the work, or materials and equipment used in or upon the work, or in any way affect the conduct of the work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

6.39 Use of Premises

The contractor shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, permits, and directions of engineer and owner, and shall not unnecessarily encumber any part of the site.

6.39.1 Contractor shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the work to stresses or pressures that will endanger it.

6.39.2 Contractor shall enforce owner's instructions in connection with signs, advertisements, fires, and smoking.

6.39.3 Contractor shall arrange and cooperate with owner in routing and parking of automobiles of his employees, subcontractors and other personnel, and in routing material delivery trucks and other vehicles to the project site.

6.40 Protection of Existing Property Improvements

Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings or structures (including portions thereof), and/or trees and shrubbery not indicated on the drawings or noted in the specifications as being removed or altered shall be protected from damage during construction of the project. Any such improvements damaged during construction of the project shall be restored to a condition equal to that existing at time of award of contract.

6.41 Temporary Heat

The general contractor shall provide heat, fuel, and services as necessary to protect all work and materials within all habitable areas of permanent building construction for all contracts against injury from dampness and cold until final acceptance of all work and materials for the project --unless building is fully occupied by the owner prior to such acceptance in which case the owner shall assume all expenses of heating from date of full occupancy. In areas outside those covered above, each prime contractor shall be

responsible for providing such temporary heat, fuel, and services as required to protect his work or shall make all necessary arrangements with the general contractor for providing such temporary heat, fuel, and services. Unless otherwise specifically permitted by stated special conditions, the permanent heating system shall not be used to provide temporary heat. Contractor's proposed methods of heating shall be submitted for approval.

ARTICLE 7

WORK BY OTHERS

7.1 Additional Related Work

The owner may perform additional work related to the project by himself, or he may let other direct contracts thereof that shall contain general conditions similar to these herein. The contractor will afford the other contractors who are parties to such direct contracts (or the owner, if he is performing the additional work himself) reasonable opportunity for the introduction and storage of materials and equipment and the execution of work and shall properly connect and coordinate his work with theirs.

7.2 Report of Defects or Deficiencies

If any part of the contractor's work depends on proper execution or results upon the work of any such other contractor (or the owner), the contractor will promptly report to the engineer in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

7.3 Altering the Work of Others

The contractor will do all cutting, fitting, and patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The contractor will not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of the engineer and of the other contractors whose work will be affected.

7.4 Prior Written Notice of Additional Work

If the performance of additional work by other contractors or the owner is not noted in the contract documents prior to the execution of the contract, written notice thereof shall be given to the contractor prior to starting any such additional work. If the contractor believes that the performance of such additional work by the owner or others involves him in additional expense or entitles him to an extension of the contract time, he may make a claim as provided herein in Articles 11 and 12.

7.5 Contractor's Allowance for Work of Others

Where practicable, the general contractor shall build around the work of other separate contractors or shall leave chases, slots, and holes as required to receive and to conceal within the general construction work the work of such other separate contractors as

directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the engineer.

7.6 Necessary Alterations Not Built by General Contractor

Necessary chases, slots, and holes not built or left by the general contractor shall be cut by the separate contractor requiring such alterations after approval of the general contractor. The general contractor shall do all patching and finishing of his work where cut by other contractors at the expense of such other contractors.

7.7 Contractors Sharing of the Work Site

Cooperation is required in the use of site facilities and in the detailed execution of the work. Each contractor shall coordinate his operations with those of the other contractors for the best interest of the work in order to prevent delay in the execution thereof.

7.8 Monitoring Contractors Work

Each contractor shall keep himself informed of the progress of the work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the contractor shall notify the engineer immediately. Lack of such notice to the engineer will be construed as acceptance by the contractor for proper coordination of his own work.

7.9 Contractor's Progress of Work Notice(s)

Each contractor shall give notice(s) of the progress of his work so as to allow other contractors adequate opportunity to properly direct and coordinate their work. The general contractor shall give notice(s) of the progress of his work so that work of other contractors, when required to be concealed, may be placed before the general construction work. All such notices shall be submitted (a) to the engineer with copies to other prime contractors on the project, and (b) sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 Notice Negligence and Other Liability

The cost of extra work resulting from lack of notices, untimely notices, and failure to respond to notices, defective work, or lack of coordination shall be borne by the contractor responsible for such lack of notices, etc.

ARTICLE 8

OWNER'S RESPONSIBILITIES

8.1 Communication

The owner will issue all communications to the contractor through the engineer.

8.2 Engineer's Termination

In case of termination of the employment of the engineer, the owner will appoint an engineer against whom the contractor makes no reasonable objection and whose status under the contract documents shall be that of the former engineer. Any dispute in connection with such appointment shall be subject to arbitration, if mutually agreeable.

8.3 Prompt Payments to Contractor

The owner will promptly furnish the data required of him under the contract documents and shall promptly make payments to the contractor after they are due as provided herein in Article 14.

8.4 Owner's Duties

Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth herein in Article 4. Article 4, paragraph 4.2 refers to the owner identifying and making available to contractor copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the work, which has been relied upon by the engineer in preparing the drawings and specifications.

8.5 Owner's Liability Responsibilities

The owner's responsibilities in respect of liability and property insurance are set forth herein in Article 5, paragraph 5.4.

8.6 Owner's Right to Request Changes

In addition to owner's rights to request changes in the work in accordance with herein Article 10, the owner (especially in certain instances as provided in Article 10, paragraph 10.4) will be obligated to execute change orders.

8.7 Owner's Right to Stop or Suspend Work

In connection with the owner's right to stop or suspend work, see herein Article 15, paragraph 15.1. Article 15, paragraph 15.3 deals with the owner's right to terminate services of the contractor under certain circumstances.

8.8 Owner's Use of Completed or Partially Completed Work

The owner shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the fact that the time for completing the entire work or any portion thereof may not have expired, but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the contract documents. If such prior use increases the cost of or delays the work, the contractor shall be entitled to such extra compensation or extension of time or both, except by prior agreement as the engineer may determine.

8.9 Other Owner's Responsibility

Owner's responsibility in respect of certain inspections, tests, and approvals is set forth herein in Article 9.

ARTICLE 9

ENGINEER'S STATUS DURING CONSTRUCTION

9.1 Owner's Representative

The engineer shall be the owner's representative during the construction period. The duties and responsibilities and the limitations of authority of the engineer as the owner's representative during construction are set forth herein in Articles 1 through 17 of these "General Conditions" and shall not be extended without written consent of the owner and the engineer.

9.1.1 The engineer's decision in matters relating to aesthetics shall be final if within the terms of the contract documents.

9.1.2 Except as may be otherwise provided in this contract, all claims, counter-claims, disputes, and other matters in question between the owner and the contractor arising out of or relating to this agreement or the breach thereof will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the state in which the owner is located.

9.2 Visits to Site

The engineer will make periodic visits to the site to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the contract documents. The engineer will not be required to make continuous on-site observations to check the quality or quantity of the work. The engineer's efforts will be directed toward ascertaining on behalf of the owner that the completed project will conform to the requirements of the contract documents. On the basis of his on-site observations as an experienced and qualified design professional, he will keep the owner informed of the progress of the work and will endeavor to guard the owner against defects and deficiencies in the work of contractors.

9.3 Clarifications and Interpretations

The engineer will issue with reasonable promptness such written clarifications or interpretations of the contract documents (in the form of drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the contract documents. If the contractor believes that a written clarification and interpretation entitles him to an increase in the contract price or extension of contract time, he may make a claim thereof as provided herein in Articles 11 and 12.

9.4 Measurement of Quantities

All work completed under the contract will be measured by the engineer according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

9.5 Rejecting Defective Work

The engineer will have authority to disapprove or reject work which is "defective" (which term is hereinafter used to describe work that is unsatisfactory, faulty, or defective, does not conform to the requirements of the contract documents, does not meet the requirements of any inspection, test, or approval referred to in the special conditions, or has been damaged prior to final acceptance). The engineer will also have authority to require special inspection or testing of the work as provided in the special conditions, whether or not the work is fabricated, installed, or completed.

9.6 Shop Drawings, Change Orders, and Payments

In connection with the engineer's responsibility as to shop drawings and samples, see herein Article 6, paragraphs 6.25 through 6.27, inclusively.

9.7 Engineer's Responsibility for Change Orders

In connection with the engineer's responsibility for change orders, see herein Articles 10, 11, and 12.

9.8 Engineer's Responsibility Regarding Application for Payment

In connection with the engineer's responsibilities in respect of "Application for Payment," etc., see herein Article 14.

9.9 Resident Project Representative

The owner or the engineer will provide on-site representation sufficient to guarantee that construction is in general compliance with the construction drawings and the contract specifications.

9.10 Decisions on Disagreements

The engineer will be the initial interpreter of the terms and conditions of the contract documents and the judge of the performance thereunder. In his capacity as interpreter and judge he will exercise his best efforts to insure faithful performance by both the owner and the contractor. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes, and other matters relating to the execution and progress of the work or the interpretation of or performance under the contract documents shall be referred initially to the engineer for decision, which he shall render in writing within a reasonable time.

9.11 Right to Request Arbitration

Either the owner or the contractor, if the other agrees, may request arbitration with respect to any such claim, dispute, or other matter that has been referred to the

engineer, except any that have been waived by the making or acceptance of final payment as provided herein in **Article 14**, paragraph 14.11, and such arbitration is to be in accordance with herein **Article 16**. However, no request for arbitration of any such claim, dispute, or other matter shall be made until the earlier of (a) the date on which the engineer has rendered his decision or (b) the tenth day after the parties have presented their evidence to the engineer if the engineer has not rendered his written decision before that date. No request for arbitration shall be made later than thirty (30) days after the date on which the engineer rendered his written decision in respect of the claim, dispute, or other matter to which arbitration is sought, and the failure to request arbitration within said thirty (30) days' period shall result in the engineer's decision being final and binding upon the owner and the contractor. If the engineer renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence but shall not supersede the arbitration proceedings except where the decision is acceptable to the parties concerned.

9.12 Limitations of Engineer's Responsibilities to Contractor and Others

Neither the engineer's authority to act under this herein **Article 9** nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the engineer to the contractor, any subcontractor, any of their agents or employees or any other person performing any of the work.

9.13 Engineer's Limitations of Responsibility

The engineer will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the contractor's failure to perform the work in accordance with the contract documents.

9.14 Engineer's Limitations of Responsibility for Omissions

The engineer will not be responsible for the acts or omissions of the contractor, or any subcontractors, or any of his or their agents or employees, or any other persons performing any of the work.

ARTICLE 10

CHANGES IN WORK

10.1 Owner's Right to Initiate Change Orders

Without invalidating the agreement, the owner may, at any time or from time-to-time, order additions, deletions, or revisions in the work; these will be authorized by change orders. Upon receipt of a change order, the contractor will proceed with the work involved. All such work shall be executed under the applicable conditions of the contract documents. If any change order causes an increase or decrease in the contract price or an extension or shortening of the contract time, an equitable adjustment will be made

as provided herein in **Article 11** or **Article 12**. A change order signed by the contractor indicates his agreement therewith.

10.2 Authorization of Minor Changes or Alterations

The engineer may authorize minor changes or alterations in the work not involving extra cost and not inconsistent with the overall intent of the contract documents. These changes and/or alterations may be accomplished by a field order. If the contractor believes that any minor change or alteration authorized by the engineer entitles him to an increase in the contract price or extension of contract time, the contractor may make a claim thereof as provided herein in **Articles 11** and **12**.

10.3 Unauthorized Additional Work

Additional work performed by the contractor without authorization of a change order will not entitle him to an increase in the contract price or an extension of the contract time except in the case of an emergency as provided herein in **Article 6**, paragraph 6.21 and except as provided herein in **Article 10**, paragraph 10.2.

10.4 Execution of Change Order(s)

The owner will execute appropriate change orders prepared by the engineer covering changes in the work to be performed as provided herein in **Article 4**, paragraph 4.4, and work performed in an emergency as provided herein in **Article 6**, paragraph 6.21 and any other claim of the contractor for a change in the contract time or the contract price, which is approved by the engineer.

10.5 Notification of Surety of Changes

It is the contractor's responsibility to notify his surety of any changes affecting the general scope of the work or change in the contract price and the amount of the applicable bonds shall be adjusted accordingly. The contractor will furnish proof of such adjustment to the owner.

ARTICLE 11

CHANGE OF CONTRACT PRICE

11.1 Total Compensation Payable to Contractor

The contract price constitutes the total compensation payable to the contractor for performing the work. All duties, responsibilities, and obligations assigned to or undertaken by the contractor shall be at his expense without changing the contract price.

11.2 Owner's Written and/or Verbal Change Orders

11.2.1 The owner may, at any time and without notice to the sureties, by written order designated or indicated to be a change order, make any change in the work within the general scope of the contract, including but not limited to changes: (a) in

the specifications (including drawings and designs); (b) in the method or manner of performance of the work; (c) in the owner-furnished facilities, equipment, materials, services, or site; or (d) directing acceleration in the performance of the work, and/or (e) directing the contractor to stop work for a stated time.

11.2.2 Any other written order or an oral order (which terms as used in this paragraph shall include direction, instruction, interpretation, or determination) from the owner, which causes any such change, shall be treated as a change order under this clause, provided that the contractor gives the owner written notice stating the date, circumstances, and source of the order and that the contractor regards the order as a change order.

11.2.3 Except as herein provided, no order, statement, or conduct of the owner shall be treated as a change under this clause or entitle the contractor to an equitable adjustment hereunder.

11.2.4 If any change under this clause causes an increase or decrease in the contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: Provided, however, that except for claims based on defective specifications, no claim for any change under above listed paragraph 11.2.2 shall be allowed for any costs incurred more than twenty (20) days before the contractor gives written notice as therein required. And provided further that in the case of defective specifications for which the owner is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the contractor in attempting to comply with such defective specifications.

11.2.5 If the contractor intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under above listed paragraph 11.2.1 or the furnishing of a written notice under above listed paragraph 11.2.2, submit to the owner a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the owner. The statement of claim hereunder may be included in the notice under above listed paragraph 11.2.2. If not received by the owner within 30 days, the owner may choose to reject the contractor's information relating to such claim without review.

11.2.6 No claim by the contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 Determination of Change Order Compensation

The compensation of any portion of the work covered by a change order or of any claim for an increase or decrease in the contract price shall be determined in one of the following ways:

11.3.1 where the change order involved is covered by unit prices contained in the contract documents by application of unit prices to the quantities of the items involved. Should the items (by quantity) be increased or decreased by more than 15 percent (15%) from that stipulated in the contract documents and the total dollar amount is significant (greater than ten thousand dollars [\$10,000]), either the owner or the contractor may request to negotiate a new unit price for the quantities in excess of the 15 percent (15%) window to protect their financial interest in the project.

11.3.2 by negotiated lump sum.

11.3.3 the actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 Defining "Cost of the Work"

The term "Cost of the Work" (also "Cost of Work") means the sum of all costs necessarily incurred and paid by the contractor in the proper performance of the work. Except as otherwise may be agreed to in writing by owner, such costs shall be in amounts no higher than those prevailing in the locality of the project shall include only the following items and shall not include any of the costs itemized herein in Article 11, paragraph 11.5:

11.4.1 payroll costs for employees in the direct employ of contractor in the performance of the work under schedules of job classifications agreed upon by owner and contractor. Payroll costs for employees not employed full time on the work shall be apportioned on the basis of their time spent on the work. Payroll costs shall include, but not be limited, to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation, and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday, or legal holidays shall be included in the above to the extent authorized by owner.

11.4.2 cost of all materials and equipment furnished and incorporated in the work, including costs of transportation and storage thereof, and manufacturers' field services required in connection therewith. All cash discounts shall accrue to contractor unless owner deposits funds with contractor with which to make payments, in which case the cash discounts shall accrue to owner. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to owner, and contractor shall make provisions so that they may be obtained.

11.4.3 payments made by contractor to the subcontractors for work performed by subcontractors. If required by owner, contractor shall obtain competitive bids from subcontractors acceptable to him and shall deliver such bids to owner who will then determine with the advice of engineer which bids will be accepted. If a subcontract provides that the subcontractor is to be paid on the basis of "Cost of Work" plus a fee, the cost of the work shall be determined in accordance with herein **Article 11**, paragraphs 11.4 and 11.5. All subcontracts shall be subject to the other provisions of the contract documents insofar as applicable.

11.4.4 costs of special consultants (including, but not limited to, engineers, architects, testing laboratories, surveyors, lawyers, and accountants) employed for services specifically related to the work.

11.4.5 supplemental costs including the following:

11.4.5.1 the proportion of necessary transportation, traveling, and subsistence expenses of contractor's employees incurred in discharge of duties connected with the work.

11.4.5.2 cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the site and hand tools not owned by the workmen that are consumed in the performance of the work, and cost less market value of such items used but not consumed, which remain the property of contractor.

11.4.5.3 rentals of all construction equipment and machinery and the parts thereof whether rented from contractor or others in accordance with rental agreements approved by owner with the advise of engineer, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the work.

11.4.5.4 sales, use, or similar taxes related to the work and for which contractor is liable, imposed by any governmental authority.

11.4.5.5 deposits lost for causes other than contractor's negligence, royalty payments, and fees and licenses. Costs for permits and licenses must be shown as a separate item.

11.4.5.6 losses, damages, and expenses, not compensated by insurance or otherwise, sustained by contractor in connection with the execution of, and to, the work, provided they have resulted from causes other than the negligence of contractor, any subcontractor, or anyone directly or indirectly employed by any

of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of owner. No such losses, damages, and expenses shall be included in the cost of the work for the purpose of determining contractor's fee. If, however, any such loss or damage requires reconstruction and contractor is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated herein in Article 11, paragraph 11.6.2.

11.4.5.7 the cost of utilities, fuel, and sanitary facilities at the site.

11.4.5.8 minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage, and similar petty cash items in connection with the work.

11.4.5.9 cost of premiums for additional bonds and insurance required because of changes in the work.

11.5 Limitations Regarding "Cost of Work"

The term "Cost of Work" shall not include any of the following:

11.5.1 payroll costs and other compensation of contractor's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by contractor, whether at the site, or in his principal, or a branch office for general administrator of the work and not specifically included in the schedule referred to herein in Article 11, subparagraph 11.4.1 - all of which are to be considered administrative costs covered by the contractor's fee.

11.5.2 expenses of contractor's principal and branch offices other than his office at the site.

11.5.3 any part of contractor's capital expenses, including interest on contractor's capital employed for the work and charges against contractor for delinquent payments.

11.5.4 cost of premiums for all bonds and for all insurance policies whether or not contractor is required by the contract documents to purchase and maintain the same (except as otherwise provided herein in Article 11, subparagraph 11.4.5.9.)

11.5.5 costs due to the negligence of contractor, any subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to the correction of defective work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

11.5.6 other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included herein in **Article 11**, paragraph 11.4.

11.6 Determining Contractor's Fee

The contractor's fee, which shall be allowed to contractor for his overhead and profit, shall be determined as follows:

11.6.1 a mutually acceptable firm, fixed price; or if none can be agreed upon,

11.6.2 a mutually acceptable fixed fee based on the estimate of the various portions of the "Cost of Work."

11.7 Credits from Contractor to Owner

The amount of credit to be allowed by contractor to owner for any such change that results in a net decrease in cost will be the amount of the actual net decrease. When both additions and credits are involved in any one charge, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.8 Itemizing Cost

Whenever the cost of any work is to be determined pursuant to herein **Article 11**, paragraphs 11.4 and 11.5, contractor will submit in form prescribed by engineer an itemized cost break-down together with supporting data.

11.9 Allowances

It is understood that the contractor has included in the contract price all allowances so named in the contract documents and shall cause the work so covered to be done by such material-men, suppliers, or subcontractors and for such sums within the limit of the allowances as the engineer may approve. Upon final payment, the contract price shall be adjusted as required and an appropriate change order issued. The contractor agrees that the original contract price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

11.9.1 These allowances shall cover the cost of the contractor less any applicable trade discount of the materials and equipment required by the allowance delivered at the site and all applicable taxes.

11.9.2 The contractor's costs for unloading and handling on the site: labor, installation costs, overhead, profit, and other expenses contemplated for the original allowance shall be included in the contract price and not in the allowance.

11.9.3 Whenever the cost as described in above listed **Article 11**, paragraph 11.9.1 is more or less than the allowance, the contract price shall be adjusted accordingly by

change order. The amount of the change order will recognize changes, if any, in handling costs on the site: labor, installation costs, overhead, profit, and other expenses except that whenever unit price allowances are stipulated for brick, the change order will not include any cost as described in above listed **Article 11**, paragraph 11.5.

ARTICLE 12

CHANGE OF CONTRACT TIME

12.1 Contract Time Change Order

The contract time may only be changed by a change order. Any claim for an extension in the contract time shall be based on written notice delivered to owner and engineer within ten (10) days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five (45) days of such occurrence unless engineer allows an additional period of time to ascertain more accurate data. All claims for adjustment in the contract time shall be determined by engineer if owner and contractor cannot otherwise agree. Any change in the contract time resulting from any such claim shall be incorporated in a change order.

12.2 Extended Contract Time Requirements

The contract time will be extended in an amount equal to time lost due to delays beyond the control of contractor if he makes a claim therefore as provided herein in **Article 12**, paragraph 12.1. Such delays shall include, but not be restricted to acts or neglect by any separate contractor employed by owner, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3 Binding Time Limits

All time limits stated in the contract documents are of the essence of the agreement. The provisions of this herein **Article 12** shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party.

12.4 Claims Due to Drawing(s) Delays

No claim for delay shall be allowed because of failure to furnish drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

12.5 Other Damage Recovery Rights

This **Article 12** does not exclude the recovery of damages for delay by either party under other provisions in the contract documents.

ARTICLE 13

GUARANTY

Contractor's Guaranty Requirements

The contractor shall guarantee all materials and equipment furnished and work performed for a period of one (1) year from the date of substantial completion. The contractor warrants and guarantees for a period of one (1) year from the date of substantial completion of the system that the completed system is free from all defects due to faulty materials or workmanship and the contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The owner will give notice of observed defects with reasonable promptness. In the event that the contractor should fail to make such repairs, adjustments, or the work that may be made necessary by such defects, the owner may do so and charge the contractor the cost thereby incurred. The performance bond shall remain in full force and effect through the guarantee period.

ARTICLE 14

PAYMENTS AND COMPLETION

14.1 Payments to Contractor

At least ten (10) days before each progress payment falls due (but not more often than once a month), the contractor will submit to the engineer a partial payment estimate filled out and signed by the contractor covering the work performed during the period covered by the partial payment estimate and supported by such data as the engineer may reasonably require. If a payment is requested on the basis of materials and equipment not incorporated in the work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the owner. The engineer will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the owner, or return the partial payment estimate to the contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the contractor may make the necessary corrections and resubmit the partial payment estimate. The owner will, within ten (10) days of presentation to him of an approved partial payment estimate, pay the contractor a progress payment on the basis of the approved partial payment estimate. The owner shall retain a portion of the amount otherwise due the contractor in accordance with Section 31-5-33 of the Mississippi Code.

14.2 Contractor's Warranty of Title

The contractor warrants and guarantees that title to all work, materials, and equipment covered by an "Application for Payment," whether incorporated in the project or not, will have passed to the owner prior to the making of the "Application for Payment" free and clear of all liens, claims, security, interests and encumbrances (hereafter in these

general conditions referred to as "Liens") and that no work, materials, or equipment covered by an "Application for Payment" will have been acquired by the contractor or by any other person performing the work at the site or furnishing materials and equipment for the project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the contractor or such other person.

14.3 Approval of Payments

The engineer's approval of any payment requested in an "Application for Payment" shall constitute a representation by him to the owner based on the engineer's on-site observations of the work in progress as an experienced and qualified design professional and on his review of the "Application for Payment" and the supporting data that the work has progressed to the point indicated; that, to the best of his knowledge, information, and belief, the quality of the work is in accordance with the contract documents (subject to an evaluation of the work is a functioning project upon substantial completion, to the results of any subsequent tests called for in the contract documents and any qualifications stated in his approval); and that the contractor is entitled to payment of the amount approved. However, by approving any such payment the engineer shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the work; or that he has reviewed the means, methods, techniques, sequences, and procedures of construction; or that he has made any examination to ascertain how or for what purpose the contractor has used the moneys paid or to be paid to him on account of the contract price; or that title to any work, materials, or equipment has passed to the owner free and clear of any liens.

14.4 Contractor's Certification Statement

The contractor shall make the following certification on each request for payment:

"I hereby certify that the labor and materials listed on this request for payment have been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location, and payment received from the last request for payment has been used to make payments to all first-tier subcontractors and suppliers except as listed below."

14.5 Engineer's Final Payment Approval

The engineer's approval of final payment shall constitute an additional representation by him to the owner that the conditions precedent to the contractor's being entitled to final payment as set forth herein in Article 14, paragraph 14.11 have been fulfilled.

14.6 Engineer's Right to Refuse Payment Approval

The engineer may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the owner as above listed in Article 14, paragraph 14.5. He may also refuse to approve any such payment, or

14.8 Owner's Right to Entry

The owner shall have the right to enter the premises for the purpose of doing work not covered by the contract documents. This provision shall not be construed as relieving the contractor of the sole responsibility for the care and protection of the work or the restoration of any damaged work except such as may be caused by agents or employees of the owner.

14.9 Engineer's Certificate

Upon completion and acceptance of the work the engineer shall issue a certificate attached to the final payment request that the work has been accepted by him under the conditions of the contract documents. The entire balance found to be due the contractor including the retained percentages, but except such sums as may be lawfully retained by the owner, shall be paid to the contractor within sixty (60) days of completion and acceptance of the work.

14.10 Contractor's Indemnification Requirements to Owner

The contractor will indemnify and save the owner or the owner's agents harmless from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, materialmen, and furnishes of machinery and parts thereof, equipment, tools, and all supplies incurred in the furtherance of the performance of the work. The contractor shall, at the owner's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the contractor fails to do so, the owner may, after having notified the contractor, either pay unpaid bills or withhold from the contractor's pay from the contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the contractor shall be resumed in accordance with the terms of the contract documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the owner to either the contractor, his surety, or any third party. In paying any unpaid bills of the contractor, any payment so made by the owner shall be considered as a payment made under the contract documents by the owner to the contractor and the owner shall not be liable to the contractor for any such payments made in good faith.

14.11 Acceptance of Final Payment as Release

The acceptance by the contractor of final payments shall be and operate as a release to the owner of all claims and all liability to the contractor other than claims in stated amounts as may be specifically excepted by the contractor for all things done or furnished in connection with his work and for every fact and neglect of the owner and others relating to or arising out of his work. Any payment, however, final or otherwise, shall not release the contractor or his sureties from any obligations under the contract documents or the performance bond and payment bonds.

ARTICLE 15

SUSPENSION OF WORK AND TERMINATION

15.1 Owner May Suspend Work

The owner may, at any time and without cause, suspend the work or any portion thereof for a period of not more than ninety (90) days by notice in writing to the contractor and the engineer,

which shall fix the date on which work shall be resumed. The contractor will resume the work on the date so fixed. The contractor will be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to any suspension if he makes claim therefore as provided herein in Articles 11 and 12.

15.2 Work During Inclement Weather

No work shall be done under these specifications except by permission of the owner when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the contractor, upon the direction of the owner, shall suspend all work until instructed to resume operations by the owner and the contract time shall be extended to cover the duration of the order. Work damaged during the periods of suspension due to inclement weather shall be repaired and/or replaced by the contractor. Any compensation for repairs or replacements shall be subject to approval of the owner.

15.3 Owner May Terminate

If the contractor is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the contractor or for any of his property, or if he files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workman or suitable materials or equipment, or if he repeatedly fails to make prompt payments to subcontractors or for labor, materials, and/or equipment, or he disregards laws, ordinances, rules regulations or orders of any public body having jurisdiction, or if he disregards the authority of the engineer, or if he otherwise violates any provision of the contract documents, then the owner may, without prejudice to any other right or remedy and after giving the contractor and his surety seven (7) days written notice, terminate the services of the contractor and take possession of the project and of all materials, equipment, tools, construction equipment, and machinery thereon owned by the contractor and finish the work by whatever method he may deem expedient. In such case the contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price exceeds the direct and indirect costs of completing the project, including compensation for additional professional services, such excess shall be paid to the contractor. If such costs exceed such unpaid balance, the contractor or the surety will pay the difference to the owner. Such costs incurred by the owner will be determined by the engineer and incorporated in a change order.

15.4 Rights of Owner Against Terminated Contractor

Where the contractor's services have been so terminated by the owner, said terminations shall not affect any rights of the owner against the contractor then existing or which may thereafter accrue. Any retention or payment of moneys by the owner due the contractor will not release the contractor from liability.

15.5 Owner's Right to Abandon Project

Upon seven (7) days written notice to the contractor and the engineer, the owner may, without cause and without prejudice to any other right or remedy, elect to abandon the project and

terminate the agreement. In such case, the contractor shall be paid for all work executed and any expenses sustained plus a reasonable profit.

15.6 Removal of Equipment

In the case of termination of this contract before completion for any cause whatever, the contractor, if notified to do so by the owner, shall promptly remove any part or all of his equipment and supplies from the property of the owner. Should the contractor not remove such equipment and supplies, the owner shall have the right to remove them at the expense of the contractor. Equipment and supplies shall not be construed to include such items for which the contractor has been paid in whole or in part.

15.7 Contractor May Stop Work or Terminate

If, through no act or fault of the contractor, the work is suspended for a period of more than ninety (90) days by the owner, or under an order of court or other public authority, or the engineer fails to act on any "Application for Payment" within sixty (60) days after it is submitted, or the owner fails to pay the contractor any sum approved by the engineer or awarded by arbitrators within sixty (60) days of its approval and presentation, then the contractor may, upon seven (7) days written notice to the owner and the engineer, terminate the agreement and recover from the owner payment for all work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the agreement, if the engineer has failed to act on an "Application for Payment" or the owner has failed to make any payment as aforesaid, the contractor may upon seven (7) days notice to the owner and the engineer stop the work until he has been paid all amounts then due.

15.8 Owner Furnished Equipment

In case the owner furnishes equipment to the contractor to install but fails to deliver it to the contractor as required by supplementary or special conditions, and in case such failure causes the contractor additional expense or need for extension of time, the contractor may make such claims upon the owner and obtain adjustments as provided herein.

15.9 Liquidated Damages

If the contractor shall fail to complete the work within the contract time or extension of time granted by the owner, then the contractor will pay to the owner the amount for liquidated damages as shown on his bid for each calendar day that the contractor shall be in default after the time stipulated in the contract documents.

ARTICLE 16

ARBITRATION

16.1 Arbitration Standards and Rules

All claims, disputes and other matters in question arising out of, or related to, this agreement or the breach thereof except for claims which have been waived by the making or acceptance of final payment as provided herein by Article 14, paragraph 14.11, shall be decided by arbitration, if all parties mutually agree, in accordance with the "Construction Industry Arbitration Rules of the

American Arbitration Association" then obtaining, or in a court of competent jurisdiction. This agreement so to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof. The arbitration decision must present findings of fact, conclusions of law, basis of award, and rationale.

16.2 Notice of Arbitration Requirements

Notice of the request for arbitration shall be filed in writing with the other party to the agreement and with the American Arbitration Association, if both parties mutually agree to arbitration, and a copy shall be filed with the engineer. The request for arbitration shall be made within the thirty (30) day period specified herein in Article 9, paragraph 9.11 where applicable, and in all other cases within a reasonable time after the claim, dispute, or other matter in question has arisen and in no event shall it be made after institution of legal or equitable proceedings based on such claim, dispute, or other matter in question would be barred by the applicable statute of limitations.

16.3 Arbitration Affects on Work

The contractor will carry on the work and maintain the progress schedule during any arbitration proceedings unless otherwise agreed by him and the owner in writing.

ARTICLE 17

MISCELLANEOUS

17.1 Recognized Delivery of Notice(s)

Whenever any provision of the contract documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended or if delivered at or sent by registered or certified mail, postage prepaid to the last business address known to him who gives the notice.

17.2 Owner's Failure to Pay Contractor

If the owner fails to make payment sixty (60) days after approval by the engineer, in addition to other remedies available to the contractor, there shall be added to each such progress payment, interest at one percent (1%) per month commencing on the first day after said payment is due and continuing until the payment is received by the contractor.

17.3 Engineer's Property

All specifications, drawings, and copies thereof furnished by the engineer shall remain the engineer's property. They shall not be used on another project, and, with the exception of those sets which have been signed in connection with the execution of the agreement, shall be returned to him on request upon completion of the project.

17.4 Non-Limiting Rights and Remedies by Herein Identified Documents

The duties and obligations imposed by these general conditions, special conditions, and supplemental general conditions and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees, and obligations imposed upon contractor and

those in the special conditions and the rights and remedies available to owner and engineer thereunder shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available to them which are otherwise imposed or available by law, by special guarantee, or be other provisions of the contract documents.

17.5 Notice of Injury or Damage Claim

Should the owner or the contractor suffer injury or damage to his/its person or property because of any error, omission or act of the other or of any of his/its employees or agents or others for whose acts he/it is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

17.6 Laws that Supersede Contract Documents

The contract documents shall be governed by the law of the place (location) of the project.

17.7 Practicable Schedule

The contractor shall within five (5) days or within such time as determined by the owner after date of commencement of work prepare and submit to the owner for approval a practicable schedule showing the order in which the contractor proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plans and equipment), and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate approximately the percentage of work scheduled for completion at any time. The contractor shall enter on the chart the actual progress at such intervals as directed by the owner and shall immediately deliver to the owner three (3) copies thereof. If the contractor fails to submit a progress schedule within the time herein prescribed, the owner may withhold approval of progress payment estimates until such time as the contractor submits the required progress schedule.

17.8 Falling behind the Progress Schedule

If, in the opinion of the owner, the contractor falls behind the progress schedule, the contractor shall take such steps as may be necessary to improve his progress and the owner may require him to increase the number of shifts or overtime operations, days of work, or the amount of construction plant, or update the progress schedule to reflect increased production for meeting the completion date, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the owner.

17.9 Failure of Contractor to Comply with Owner Requirements

Failure of the contractor to comply with the requirements of the owner under this provision shall be grounds for determination by the owner that the contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination, the owner may terminate the contractor's right to proceed with the work or any separable part thereof in accordance with the clause of the contract entitled, "Termination for Default-Damages for Delay – Time Extensions."

17.10 Failure to Complete the Work on Time

Should the contractor fail to complete the work within the specified time or within any extra time allowed under these specifications, a sum of money determined by the following schedule shall be deducted from any funds due the contractor. The owner shall have the right to recover the said sum or sums from the contractor or from the surety or from both. The amounts of these deductions are to cover the liquidated damages to the owner incurred by additional or other expenses due to the failure of the contractor to complete the work or any part of the work within the time specified, and such deductions are not to be considered penalties.

17.11 Liquidated Damages

The damages indicated in the contract documents shall be considered as liquidated damages for the loss to the owner on account of the expense due to the employment of engineers and their assistants and to any others expenses incurred after the expiration of the contract time as determined by the engineer.

17.12 Laws that Supersede Contract Documents

The contract documents shall be governed by the law of the place (location) of the project.

SUPPLEMENTAL GENERAL CONDITIONS

ARTICLE 1 - SPECIAL CONDITIONS

SCOPE AND INTENT

Special conditions shall prevail over General Conditions in case of conflict. The Contractor shall furnish all labor, materials, equipment (including fuel), tools, appliances, transportation and perform all operations in connection with the construction of, alterations to, or repair of, the building, including utilities, complete, in strict accordance with the specifications and the plans governing the construction of, alterations to, or repair of, the project.

EXAMINATION OF PREMISES

Before submitting a proposal for his work, each bidder shall be held responsible to have examined the site and satisfied himself as to the conditions under which work is to be performed.

PERMITS, TAXES, AND ORDINANCES

The Contractor shall pay for all required permits, give legal notices, and pay taxes and assessments levied in connection with this contract. Building regulations of the City of Petal Building Code shall be strictly adhered to and the contractor shall be responsible for knowledge thereof.

INSURANCES, ETC.

In addition to the requirements of the General Conditions, insurance coverage specified herein constitutes the minimum requirements and said requirements shall in no way lessen or limit the liability of the **CONTRACTOR** under the terms of the Contract. The **CONTRACTOR** shall procure and maintain at his own expense any additional kinds and amounts of insurance that, in his own judgment, may be necessary for his proper protection in the prosecution of the Work.

The **CONTRACTOR** shall carry insurance as prescribed herein and all policies shall be with companies satisfactory to the **OWNER**.

If a part of this Contract is sublet, the **CONTRACTOR** shall require each Subcontractor to carry insurance of the same kinds and in like amounts as carried by the **CONTRACTOR**.

Certificates of insurance shall state that 30 days written notice will be given to the **OWNER** before the policy is canceled or changed. No **CONTRACTOR** or Subcontractor will be allowed to start any construction work on this Contract until certificates of all insurance required herein are filed and approved by the **OWNER**. The certificates shall show the type, amount, class of operations covered, effective dates and the dates of expiration of policies. The **CONTRACTOR** shall secure and maintain in effect for the period of the Contract and pay all premiums for the following kinds and amounts of insurance.

A. **Workers' Compensation and Employer's Liability Insurance**

This insurance shall protect the **CONTRACTOR** against all claims under applicable

State Worker's Compensation Laws. The **CONTRACTOR** shall also be protected and shall cause each Subcontractor to be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a Worker's Compensation Law. The liability limits shall not be less than the required statutory limits for Worker's Compensation and Employer's Liability in the amount of ONE HUNDRED THOUSAND DOLLARS (\$100,000.00) for each person. This policy shall include an all states endorsement.

B. CONTRACTOR'S Comprehensive Public Liability and Property Damage Insurance, covering all operations in connection with the performance of this Contract in amounts not less than the following:

Bodily injury liability in the amount of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for each person and ONE MILLION DOLLARS (\$1,000,000) for each accident and property damage liability in the amount of TWO HUNDRED FIFTY THOUSAND DOLLARS (\$250,000) for all damages arising out of the injury or destruction of property in any one accident and subject to that limit per accident a total for aggregate limit of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for all damages arising out of injury to or destruction of property during the policy period. The Comprehensive Public Liability and Property Damage policies carried by both the **CONTRACTOR** and the Subcontractors shall contain an endorsement to include the coverage of the following hazards:

- a. Explosion, collapse, and underground property damage to include any damage or destruction of property below the surface of the ground, such as wires, conduits, pipes, mains, sewers, etc., caused by the **CONTRACTOR'S** operations.
- b. The collapse of and structural injury to any building, structure or property on or adjacent to the **OWNER'S** premises or right-of-way caused by the **CONTRACTOR'S** operations in the removal of other buildings, structures, or supports, or by excavation below the surface of the ground.
- c. Contractual Liability Coverage for the Hold Harmless segments of the Contract Documents.

C. CONTRACTOR'S Contingent or Protective Liability and Property Damage:

In case part of this Contract is sublet, the **CONTRACTOR** shall secure contingent or protective liability and property damage insurance to protect him from any and all claims arising from the operation of his Subcontractors in the execution of Work included in the Contract. In no case shall the amount of such protection be less than the limits of \$500,000/\$1,000,000 for Public Liability Insurance and \$500,000/\$1,000,000 for Property Damage Insurance. The coverage in each case shall be acceptable to the **OWNER**.

D. Automotive Public Liability and Property Damage

The **CONTRACTOR** shall maintain automobile public liability insurance in the amount of not less than FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for injury to one person and ONE MILLION DOLLARS (\$1,000,000) for one accident; and automobile property damage insurance in the amount of not less than FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for one accident to protect him from any and all claims arising from the use of the following:

- a. **CONTRACTOR'S** own automobiles and trucks.
- b. Hired automobiles and trucks.
- c. Automobiles and trucks owned by Subcontractors.

The aforementioned is to cover use of automobiles and trucks on and off the site of the Project.

E. OWNER'S Protective Liability Policy

The **CONTRACTOR** shall maintain **OWNER'S** Protective Liability Insurance with the **OWNER** as the named insured, and the **ENGINEER**, and their servants, agents and employees as additional insureds in amounts not less than the following:

- a. Bodily Injury in the amount of ONE MILLION DOLLARS (\$1,000,000) for each person and ONE MILLION DOLLARS (\$1,000,000) for each accident and property damage liability in the amount of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) for all damages arising out of an injury or destruction of property in any one accident and subject to that limit per accident a total (or aggregate) limit of ONE MILLION DOLLARS (\$1,000,000) for all damages arising out of injury to or destruction of property during the policy period.

CLEANING UP

The Contractor shall, at all times, keep the premises free from accumulations of waste materials and at the completion of the work, shall remove all his rubbish, tools, temporary buildings, etc. from and about the site and shall leave his work "broom" clean unless more exactly specified elsewhere. All glass shall be washed and left free from stains of any nature.

GUARANTEE

The Contractor shall guarantee to City of Petal all work under this contract to be free from defects in workmanship and materials for a period of one (1) year from date of final acceptance.

BIDS

The form of proposal or an exact facsimile thereof must be used by Contractors submitting proposal for any or all of the work included in these specifications and/or the accompanying plans. The receipt of all Addenda must be acknowledged and the receipt signed by the Contractor or his duly authorized representative and attached to the proposal form when the bids are submitted.

SPECIAL INSTRUCTIONS

LIMITATIONS

During construction, care is to be taken to prevent damage to the work in place. As soon as work is completed, all work is to be thoroughly cleaned. Before completion, all damaged work is to be repaired and left in perfect condition. The Contractor will be responsible for all clean-up of the premises. All trash, etc. will be hauled away from the site, and the site left in a clean and neat condition. Alcoholic beverages of any type will not be permitted on job site.

PRODUCT/MATERIALS SUBSTITUTION

Contractor will submit prior to starting work on project any changes to materials specified. Contractor will submit all specification data, company name, and supplier of material that he wishes to substitute. All material will be evaluated. Contractor will be given approval/disapproval with five (5) days by Owner. No substitutes will be taken into consideration after work has begun, no substitutes will be allowed if Contractor does not submit specification data within time allowed.

INSPECTION

All work covered by these specifications shall be subject to inspection by Owner or his authorized representative. Contractor will coordinate with Owner for inspections as required during construction, and furnish to the Owner in writing a project schedule prior to mobilization of work at the job site.

WARRANTY

The Contractor, upon completion of the project, shall furnish one (1) year written guarantee on all materials and workmanship to begin on the date of acceptance by the Owner or the Owner's appointed representative.

SPECIFICATIONS AND DRAWINGS ARE RECIPROCAL

The specifications and drawings are intended mutually to explain each other and anything which is referred to in the specifications and not shown on the drawings shall be considered as being shown and mentioned and referred to in both of these documents. Such work shall be done and

performed accordingly. Any drawing attached to this specification form is an integral part thereof and where such drawings, if any, differ from these specifications, the specifications shall govern.

AS-BUILT DRAWINGS

Occasionally, during the course of construction, modifications and changes may occur due to site conditions, unforeseen circumstances and problems encountered. This may result in a modification of construction as originally depicted on drawings. Contractor will furnish the City of Petal a marked-up set of prints in red line of all changes and/or modifications that pertain to this contract. Drawings will be labeled. "AS-BUILT DRAWINGS".

GUARANTEES, WARRANTIES AND BONDS

1. All work will be guaranteed by the Contractor for a period of one (1) year from the date of substantial completion.
2. Wording for the notarized guarantee shall be as follows:
"We hereby guarantee all work performed by us on the above captioned project to be free from defective materials and workmanship for a period of one (1) year, or such longer period of time as may be called for in the Contract Documents for such portions of the work."
3. Guarantee Compliance:
Except as otherwise specified, all work shall be guaranteed by the Contractor and through him each sub-contractor against defects resulting from the use of inferior materials, equipment or workmanship for one (1) year from the date of substantial completion of the Contract. In case of work performed by his sub-contractors, the Contractor shall secure warranties from said sub-contractors and deliver copies of the same to the Owner upon completion of the work. If, within any guarantee period, repairs or changes are required in connection with guaranteed work which, in the Owner's opinion, are rendered necessary as the result of use of materials, equipment or workmanship which are inferior, defective or not in accordance with terms of the Contract: Contractor shall promptly upon receipt of Owner's written notice, and without expense of the Owner;
 - a. Place in satisfactory condition in every particular all such guaranteed work, correct all defects therein.
 - b. Make good all damage to the building, site, equipment or building contents which in the Owner's opinion is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with terms of the Contract.
 - c. Make good any work or material or the equipment and contents of building or site disturbed in fulfilling such guarantee.

In any case where fulfilling the requirements of the Contract, or any guarantee embraced in or required thereby, the Contractor disturbs any work guaranteed under another's Contract, he shall restore such disturbed work to condition satisfactory to the Owner and guarantee such restored work to the same extent as it was guaranteed under such other

contract. If the Contractor, after notice, fails to proceed promptly to comply with terms of the guarantee, the Owner may have the defects corrected and the Contractor and his surety shall be liable for all expense incurred. All special guarantees applicable to definite parts of the work that may be stipulated in the specification or other Contract Documents shall be subject to the terms of this Specification Section during the first year of the life of such special guarantees. All guarantees and warranties shall be obtained in the Owner's name and evidence thereof shall be promptly delivered to the Owner's Representative for transfer to the Owner.

CLOSE-OUT DOCUMENTS

In general documents for close out, to be submitted by the Contractor to the Owner, prior to final payment, shall be; but not limited to the following:

1. APPLICATION FOR PAYMENT: AIA Document G-702
2. CERTIFICATE OF SUBSTANTIAL COMPLETION: AIA Document G-704
3. CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS:
AIA Documents G-706 and G-706A: The Contractor shall furnish these AIA Documents complete with attached notarized full release of liens, damages, and a guarantee that all materials and labor are paid in accordance with Contract Documents with the following wording:
"WE HEREBY CERTIFY THAT ALL BILLS FOR LABOR AND MATERIALS INCORPORATED INTO THE ABOVE CAPTIONED PROJECT UNDER OUR CONTRACT HAVE BEEN PAID AND THAT THE OWNER IS RELEASED FROM ANY AND ALL CLAIMS AND/OR DAMAGES UNDER THIS CONTRACT."
4. CONSENT OF SURETY COMPANY TO FINAL PAYMENT: AIA Document G-707
To be completed in full by the Bonding Company.
5. CONTRACTOR'S NOTARIZED STATEMENT:
Notarized statement that project has been constructed in accordance with Contract Documents.
6. CONTRACTOR'S NOTARIZED STATEMENT OF GUARANTEE/S:
All work will be guaranteed by the Contractor for a period of one (1) year from the date of substantial completion. Wording will be as follows:
"WE HEREBY GUARANTEE ALL WORK PERFORMED BY US ON ABOVE CAPTIONED PROJECT TO BE FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR, OR SUCH LONGER PERIOD OF TIME AS MAY BE CALLED FOR IN THE CONTRACT DOCUMENTS FOR SUCH PORTIONS OF THE WORK."
In the case of work performed by his sub-contractors, the Contractor shall secure warranties from said sub-contractors and deliver copies of same to the Owner upon completion of work.
7. OPERATING AND MAINTENANCE MANUALS:
All manufacturer's operating instructions and maintenance manuals will be compiled in a tabbed and labeled 3-ring binder. (Furnish Owner with two (2) sets).
8. FORM W-9, PAYER'S REQUEST FOR TAXPAYER IDENTIFICATION NUMBER AND CERTIFICATION (IRS):
Form W-9 is to be completed by non-corporation contractors. Non-applicable if Contractor's firm is Incorporated.
9. FINAL CLEANING:
At close out time clean and re-clean entire work to normal level for "FIRST CLASS" maintenance/cleaning.

MEASUREMENT AND PAYMENT

Measurement and Payment for all bid items shall be in accordance with the Mississippi Standard Specifications for Road and Bridge Construction, 2004 edition.

TECHNICAL SPECIFICATIONS

1. Applicable Specifications

The Technical Specifications entitled Mississippi Standard Specifications for Road and Bridge Construction, 2004 Edition shall be the specifications applicable to this project except as for herein specified. Any testing required by those specifications for material submittal approval shall be the responsibility of the Contractor. The testing laboratory used by the Contractor shall be a laboratory certified by the Mississippi Department of Transportation and shall be approved by the Engineer. Any reference to Unit Item for pay shall be modified and paid based on the Measurement and Payment section of the specifications.

2. References Amended to mean Engineer

Any reference in the above-mentioned specifications to Commission, Director, Chief Engineer, Testing Engineer, or Project Engineer shall be amended in these specifications to mean the Engineer, or his duly authorized representative, of the City of Hattiesburg, Mississippi.



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-692

File ID: 2017-692

Type: Regular Agenda Item

Status: Removed

Version: 7

Reference:

In Control: City Council

Requester: Sharon Waits

File Created: 08/30/2017

Brief Title: Authorize execution of contract for COMSWIP Sewer Improvements Phase V

Final Action: 09/19/2017

Minute Book Number: MB2017-403

Title:

Authorize Mayor to execute four (4) copies of contract with C.B. Developers for the COMSWIP Sewer Phase V Project.

Notes:

Agenda Date: 09/19/2017

Indexes:

Agenda Number: V.-15

Sponsors:

Enactment Date:

Attachments: C B Developers Contract - COMSWIP Sewer Phase V Project, executed C B Developers Contract - COMSWIP Sewer Phase V Project

Enactment Number:

Contact:

Meeting Date: 09/19/2017

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
7		09/05/2017					
7	City Council	09/19/2017	Authorize				Pass

Action Text: A MOTION was made by Council Member George and seconded by Council Member Brown to Authorize Mayor to execute four (4) copies of contract with C.B. Developers for the COMSWIP Sewer Phase V Project.

There being no discussion, the Motion received the affirmative vote of the Council as follows:

Yeas: 3 - George, Carroll and Brown

Nays: 0

Abstain: 1 - Delgado

Recused: 1 - Dryden

Council Vice President Dryden returned to the room following the vote.

Yea: 3	Council Member George
	Council President Carroll
	Council Member Brown
Abstain: 1	Council Member Delgado
Recuse: 1	Council Vice President Dryden

Text of Legislative File 2017-692

Title

Authorize Mayor to execute four (4) copies of contract with C.B. Developers for the COMSWIP Sewer Phase V Project.

Summary

Authorize execution of contract for COMSWIP Sewer Phase V Project.

SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

**COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V**

**DOGWOOD DRIVE, RICHBURG ROAD, CORRINE STREET, EMERALD LANE,
DUKE AVENUE, PECAN GROVE DRIVE, MEADOWBROOK DRIVE, SPRINGHILL
DRIVE, OAK FORREST DRIVE, RHODES DRIVE AND, J. ED TURNER DRIVE**

FOR THE

**CITY OF HATTIESBURG
FORREST & LAMAR COUNTIES
MISSISSIPPI**

JANUARY 2017



PREPARED BY:

**SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS
301 SECOND AVENUE
HATTIESBURG, MISSISSIPPI
(601) 544-1821**

ADDENDUM No. 4
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V

CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

- CHANGE No. 1 -** The project shall be modified to eliminate Site No. 4 and Site No. 5. The enclosed proposal shall replace the proposal included in the specifications.
- CHANGE No. 2 -** All ductile iron fittings and pipe shall be lined with Protecto 401
- CHANGE No. 3 -** P-trap between lift station and valve pit shall be constructed with schedule 40 PVC pipe and fittings.
- CHANGE No. 4 -** All disturbed areas located at the lift station site shall be seeded and fertilized per the plans and specifications. Also, an Excelsior blanket shall be installed on these areas.
- Excelsior Blanket
Technical Specifications
- Recommended Slope: 3:1
Recommended Flow: 6 fps (2.1 m/s)
Netting: Photodegradable Polypropylene Plastic
Matrix: 100% Excelsior Wood Fiber, 0.73 lbs/yd²

SHOWS, DEARMAN & WAITS, INC.

CITY OF HATTIESBURG

by:

Kyle Wallace, E.E.



by:

Kermas Eaton, City Clerk

Dated this 12 day of May, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C.B. DEVELOPERS, INC.

Signature: [Signature]

Title: Project Manager

Proposal			
Comprehensive Sewer Improvements - Phase V			
City of Hattiesburg			
Site 1: Dogwood Drive Area		Subtotal	537,754.81
Site 2-3: Corrine Street, Emerald Lane & Duke Avenue		Subtotal	539,485.69
		Total:	1,077,240.50

The City of Hattiesburg reserves the right to award any site or combination of sites. No site will be considered as a base bid. Contractors should price each site as independent of other sites. The contract shall include tracer wire system as outlined in the specifications for all gravity, force main and sewer services. Cost shall be included in the project.

Site No. 2-3 shall be completed prior to Site No. 1 (if both sites are awarded)

Proposal**Site 1 - Dogwood Drive Area**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	4" 160 PSI PVC Sanitary Sewer Force Main (All Depths)	Lin. Ft.	1,000	7.84	7840.00
2	8" SDR 26 PVC Sewer Pipe (0'-6")	Lin. Ft.	1,098	24.16	26527.68
3	8" SDR 26 PVC Sewer Pipe (6'-8")	Lin. Ft.	601	26.56	15962.56
4	8" SDR 26 PVC Sewer Pipe (8'-10")	Lin. Ft.	123	38.55	4741.65
5	8" SDR 26 PVC Sewer Pipe (10'-12")	Lin. Ft.	101	43.34	4377.34
6	8" SDR 26 PVC Sewer Pipe (12'-14")	Lin. Ft.	135	48.14	6498.90
7	Air Release and Vacuum Valve Assembly (Including Precast Concrete Manhole)	Each	1	4189.24	4189.24
Manhole Items					
8	48" Precast Concrete Sewer Manhole (0'-6")	Each	3	2689.82	8069.46
9	48" Precast Concrete Sewer Manhole (6'-8")	Each	8	3176.78	25414.24
10	48" Precast Concrete Sewer Manhole (8'-10")	Each	1	3658.87	3658.87
11	48" Precast Concrete Sewer Manhole (10'-12")	Each	1	4190.30 ^{ML}	4190.30 ^{ML}
12	48" Precast Concrete Sewer Manhole (12'-14")	Each	1	4382.73	4382.73
Sewer Service Items					
13	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	942	10.60	9985.20
14	8"x8"x6" PVC Tee	Each	8	323.75	2590.00
15	6" PVC Cleanout	Each	8	359.74	2877.92

[illegible]

Proposal**Site 2-3 - Corrine Street, Emerald Lane & Duke Avenue**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	243	24.46	5943.78
2	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	635	26.56	16865.60
3	8" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	125	28.95	3618.75
4	8" SDR 26 PVC Sewer Pipe (12'-14')	Lin. Ft.	137	31.35	4294.95
5	8" SDR 26 PVC Sewer Pipe (14'-16')	Lin. Ft.	102	36.15	3687.30
6	8" SDR 26 PVC Sewer Pipe (16'-18')	Lin. Ft.	187	40.94	7655.78
7	8" SDR 11 HDPE Sewer Service Bore	Lin. Ft.	275	59.47	16354.25
8	15" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	733	38.50	28220.50
9	15" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	336	43.29	14545.44
10	15" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	225	48.09	10820.25
11	24" Steel Casing (Bored)	Lin. Ft.	60	213.46	12807.60
Manhole Items					
12	48" Precast Concrete Sewer Manhole (8'-10')	Each	3	3179.29	9537.87
13	48" Precast Concrete Sewer Manhole (12'-14')	Each	1	3663.36	3663.36
14	48" Precast Concrete Sewer Manhole (14'-16')	Each	1	4675.87	4675.87
15	60" Precast Concrete Sewer Manhole (6'-8')	Each	3	4615.92	13847.76
16	60" Precast Concrete Sewer Manhole (10'-12')	Each	2	4991.79	9983.58
17	Drop Manhole Assembly (All Depths)	Each	3	869.23	2607.69
18	Demolition and Removal of Existing Sewer Manhole	Each	8	1498.68	11989.44
Sewer Service Items					
19	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	270	10.56	2851.20
20	8"x8"x6" PVC Tee	Each	3	323.75	971.25
21	Service Connection (Insert a Tee)	Each	6	585.08	3510.48
22	6" PVC Cleanout	Each	9	370.47	3334.23

	Miscellaneous Construction Items					
23	Water Service Repair (Including Service Tubing, Fittings, Corp Stop, Curb Stop, Tapping Saddle, Etc)	Each	8			
24	Crushed Aggregate (Size 825)	Ton	1,387	669.01	5352.08	
25	Select Fill Material (Class 9, Group C), LVM	Cu. Yd.	8,090	44.96	62359.52	
26	Hot Mix Asphalt, ST, 9.5mm	Tons	530	11.39	92145.10	
27	Concrete Pavement Repair (All Depths)	Sq. Yd.	25	167.85	88960.50	
28	Removal of Cross Drains (All Types and Sizes)	Lin. Ft.	180	59.95	1498.75	
29	12" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	24	11.99	2158.20	
30	18" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	64	39.57	949.68	
31	21" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	64	43.16	2762.24	
32	24" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	40	52.75	2110.00	
33	Class "B" Concrete, Minor Structures	Lin. Ft.	48	70.74	3395.52	
34	Grassing	Cu. Yd.	1	2381.10	2381.10	
35	Erosion Control	Lump Sum	1	3896.56	3896.56	
36	Mobilization	Lump Sum	1	7793.11	7793.11	
37	Maintenance of Traffic	Lump Sum	1	41962.90	41962.90	
			1	29973.50	29973.50	
				Subtotal (Site 2-3): 539,485.69		

ADDENDUM No. 3
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V

CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to May 18, 2017. Bid time, location, etc shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

by:

Kyle Wallace, P.E.

125593

CITY OF HATTIESBURG

by:

Kermas Eaton, City Clerk

Dated this 8th day of May, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C. B. DEVELOPERS, INC.

Signature: [Signature]

Title: Project Manager

ADDENDUM No. 2
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V

CITY of HATTIESBURG

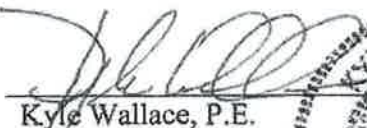
The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to May 11, 2017. Bid time, location, etc shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

CITY OF HATTIESBURG

by:


Kyle Wallace, P.E.

by:


Kermas Eaton, City Clerk

Dated this 1st day of May, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C.B. DEVELOPERS, INC.

Signature: 

Title: Project Manager

ADDENDUM No. 1
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V

CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to May 4, 2017. Bid time, location, etc shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

by:

Kyle Wallace, P.E.

CITY OF HATTIESBURG

by:

Kermas Eaton, City Clerk

Dated this 30th day of March, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C. B. DEVELOPERS, INC.

Signature: [Signature]

Title: Project Manager

SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V
DOGWOOD DRIVE, RICHBURG ROAD, CORRINE STREET, EMERALD LANE,
DUKE AVENUE, PECAN GROVE DRIVE, MEADOWBROOK DRIVE, SPRINGHILL
DRIVE, OAK FORREST DRIVE, RHODES DRIVE AND, J. ED TURNER DRIVE

FOR THE
CITY OF HATTIESBURG
FORREST & LAMAR COUNTIES
MISSISSIPPI

JANUARY 2017



PREPARED BY:
SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS
301 SECOND AVENUE
HATTIESBURG, MISSISSIPPI
(601) 544-1821

INDEX

ADVERTISEMENT FOR BIDS	1
INFORMATION FOR BIDDERS	2 - 4
PROPOSAL FORM	5
PROPOSAL	6 - 14
BID BOND	15 - 16
CONTRACT AGREEMENT	17- 19
PAYMENT & PERFORMANCE BOND	20- 21
NOTICE OF AWARD	22
NOTICE TO PROCEED	23
GENERAL CONDITIONS	GC-1 - GC-36
MEASUREMENT AND PAYMENT	MP-1 - MP-4
TECHNICAL SPECIFICATIONS	TS-1- TS-114
Sanitary Sewerage Systems	
Standard Specifications for Lining Ductile Iron Pipe for Sewer Service	
Manholes	
Restoration of Roads, Driveways, Fences, Lawns & Other Grassed Areas	
Concrete	
Seeding and Sodding	
Specification for Connection to Mainline Pipe (Insert-A-Tee)	
Sewage Pumping Station	
Dogwood Drive Pump Station	
Grouted Riprap	
Water Systems	

ADVERTISEMENT FOR BIDS:

NOTICE is hereby given that the City Clerk of the City of Hattiesburg, Mississippi, will receive sealed bids until **10:00 a.m.** on **April 6, 2017** in the City Clerk's Office in the City Hall of said City for furnishing the City's requirements for the following:

**COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V
HATTIESBURG, MISSISSIPPI**

Plans, Specifications and proposal forms may be obtained from Shows, Dearman & Waits, Inc., P. O. Box 1711, 301 Second Avenue, Hattiesburg, Mississippi, 39403, upon deposit of \$150.00, non-refundable. All bids must be accompanied by bid security equal to 5% of the amount of the bid, in the form of a certified check, cashier's check or a bid bond written by a company properly licensed in Mississippi.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner EXACTLY as follows:

BID:

**COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V
HATTIESBURG, MISSISSIPPI**

No bid may be withdrawn for a period of sixty (60) days. The lowest and best proposal received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated and Amended, and other applicable State law; but the Council reserves the right to reject any or all proposals received and to waive informalities.

PUBLISHED by Order of the Council on the 21 day of February A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: _____
Kermas Eaton, City Clerk

Publish on March 2, 2017 and March 9, 2017
City of Hattiesburg
Return PROOF to City Clerk's Office
PO Box 1898
Hattiesburg, MS 39403-1898

INFORMATION FOR BIDDERS

BIDS will be received by CITY OF HATTIESBURG, MISSISSIPPI herein called the "OWNER", at City Hall until **10:00 a.m. on April 6, 2017**, and then at said office publicly opened and read aloud.

Each BID must be submitted in sealed envelope, addressed to City of Hattiesburg. Each sealed envelope containing a BID must be plainly marked on the outside as BID for **COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V** and the envelope should bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed addressed to the Owner at P. O. Box 1898, Hattiesburg, MS 39403

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a BID BOND payable to the OWNER for five percent (5%) of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsive, responsible BIDDERS. When the Agreement is executed the BONDS of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be

returned. A certified check may be used in lieu of a BID BOND.

A PERFORMANCE BOND and a PAYMENT BOND, each in the amount of 100 percent (100%) of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dates copy of their Power of Attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible BIDDER.

All applicable Laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

FURTHER, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER is SHOWS, DEARMAN & WAITS, INC. The address of the ENGINEER is 301 2nd Avenue, Hattiesburg, Mississippi.

PROPOSAL FORM

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 300 calendar days thereafter.

It is understood that the quantities of work listed for unit prices bid are approximate, and are intended to merely indicate the general scope of the various items entering into the complete work. It is further understood and agreed that the Owner may increase or decrease the quantities listed in the Proposal to an extent equivalent to 30% of the bid price (in dollars) and that no change in the unit prices proposed shall be occasioned thereby.

The undersigned further agrees that the unit and lump sum prices quoted include all items of work required or necessary for the accomplishment of the projected work and that these items include all work indicated on the Plans and Specifications for which no specific pay items have been established.

The undersigned understands the City of Hattiesburg to choose any Alternate Bid Package. The Contract shall be awarded to the low bidder in the Alternate selected by the Owner.

The undersigned certifies that the bid prices contained herein have been carefully checked and are submitted as correct and final.

If within thirty (30) days the scheduled closing time for receipt of bids, this Proposal is accepted, the undersigned will execute a formal contract within seven (7) days after official notification thereof, will deliver a surety bond for the faithful performance of this contract, and will complete the work within the time specified from the date of execution of the contract.

Respectfully Submitted,

C.B. Developers

Name of Firm or Bidder

By:

[Signature]

1716 EVELYN GANDY PARKWAY SUITE 40
ADDRESS HATTIESBURG, MS 39401

Proposal			
Comprehensive Sewer Improvements - Phase V			
City of Hattiesburg			
	Site 1: Dogwood Drive Area		Subtotal
	Site 2-3: Corrine Street, Emerald Lane & Duke Avenue		Subtotal
	Site 4: Meadow Brook Drive Area		Subtotal
	Site 5: J Ed Turner Drive		Subtotal
Total:			

The City of Hattiesburg reserves the right to award any site or combination of sites. No site will be considered as a base bid. Contractors should price each site as independent of other sites. The contract shall include tracer wire system as outlined in the specifications for all gravity, force main and sewer services. Cost shall be included in the project.

Proposal**Site 1 - Dogwood Drive Area**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	4" 160 PSI PVC Sanitary Sewer Force Main (All Depths)	Lin. Ft.	1,000		
2	8" SDR 26 PVC Sewer Pipe (0'-6")	Lin. Ft.	1,098		
3	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	601		
4	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	123		
5	8" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	101		
6	8" SDR 26 PVC Sewer Pipe (12'-14')	Lin. Ft.	135		
7	Air Release and Vacuum Valve Assembly (Including Precast Concrete Manhole)	Each	1		
Manhole Items					
8	48" Precast Concrete Sewer Manhole (0'-6')	Each	3		
9	48" Precast Concrete Sewer Manhole (6'-8')	Each	8		
10	48" Precast Concrete Sewer Manhole (8'-10')	Each	1		
11	48" Precast Concrete Sewer Manhole (10'-12')	Each	1		
12	48" Precast Concrete Sewer Manhole (12'-14')	Each	1		
Sewer Service Items					
13	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	942		
14	8"x8"x6" PVC Tee	Each	8		
15	6" PVC Cleanout	Each	8		

	Lift Station Items					
16	Lift Station Incl Clearing and Grubbing, Borrow Material, Crushed Aggregate, Concrete Wet Well , Pumps, Electrical, Disconnect, Valve Pit, Guages, Service Pole, Meter Box, Lifting Chain or Cable, Gude Rail Assembly, Chain Link Fencing, Etc.	LS	1			
	Miscellaneous Construction Items					
17	Abandonment of Septic Tanks	Each	7			
18	Drop Manhole Assembly (All Depths)	Each	3			
19	Water Service Repair (Including Service Tubing, Fittings, Corp Stop, Curb Stop, Tapping Saddle, Etc)	Each	4			
20	Crushed Aggregate (Size 825)	Ton	612			
21	Select Fill Material (Class 9, Group C), LVM	Cu. Yd.	2,495			
22	Hot Mix Asphalt, ST, 9.5mm	Tons	208			
23	Concrete Pavement Repair (All Depths)	Sq. Yd.	57			
24	Removal of Cross Drains (All Types and Sizes)	Lin. Ft.	16			
25	30" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	16			
26	Class "B" Concrete, Minor Structures	Cu. Yd.	5			
27	Grassing	Lump Sum	1			
28	Erosion Control	Lump Sum	1			
29	Mobilization	Lump Sum	1			
30	Maintenance of Traffic	Lump Sum	1			
	Subtotal (Site 1):					

Proposal**Site 2-3 - Corrine Street, Emerald Lane & Duke Avenue**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	243		
2	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	635		
3	8" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	125		
4	8" SDR 26 PVC Sewer Pipe (12'-14')	Lin. Ft.	137		
5	8" SDR 26 PVC Sewer Pipe (14'-16')	Lin. Ft.	102		
6	8" SDR 26 PVC Sewer Pipe (16'-18')	Lin. Ft.	187		
7	8" SDR 11 HDPE Sewer Service Bore	Lin. Ft.	275		
8	15" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	733		
9	15" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	336		
10	15" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	225		
11	24" Steel Casing (Bored)	Lin. Ft.	60		
Manhole Items					
12	48" Precast Concrete Sewer Manhole (8'-10')	Each	3		
13	48" Precast Concrete Sewer Manhole (12'-14')	Each	1		
14	48" Precast Concrete Sewer Manhole (14'-16')	Each	1		
15	60" Precast Concrete Sewer Manhole (6'-8')	Each	3		
16	60" Precast Concrete Sewer Manhole (10'-12')	Each	2		
17	Drop Manhole Assembly (All Depths)	Each	3		
18	Demolition and Removal of Existing Sewer Manhole	Each	8		
Sewer Service Items					
19	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	270		
20	8"x8"x6" PVC Tee	Each	3		
21	Service Connection (Insert a Tee)	Each	6		
22	6" PVC Cleanout	Each	9		

	Miscellaneous Construction Items				
23	Water Service Repair (Including Service Tubing, Fittings, Corp Stop, Curb Stop, Tapping Saddle, Etc)	Each	8		
24	Crushed Aggregate (Size 825)	Ton	1,387		
25	Select Fill Material (Class 9, Group C), LVM	Cu. Yd.	8,090		
26	Hot Mix Asphalt, ST, 9.5mm	Tons	530		
27	Concrete Pavement Repair (All Depths)	Sq. Yd.	25		
28	Removal of Cross Drains (All Types and Sizes)	Lin. Ft.	180		
29	12" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	24		
30	18" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	64		
31	21" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	40		
32	24" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	48		
33	Class "B" Concrete, Minor Structures	Cu. Yd.	1		
34	Grassing	Lump Sum	1		
35	Erosion Control	Lump Sum	1		
36	Mobilization	Lump Sum	1		
37	Maintenance of Traffic	Lump Sum	1		
			Subtotal (Site 2-3):		

Proposal**Site 4 - Meadow Brook Drive Area**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	8" SDR 26 PVC Sewer Pipe (0'-6')	Lin. Ft.	667		
2	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	169		
3	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	82		
4	10" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	20		
5	12" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	20		
6	12" SDR 26 PVC Sewer Pipe (12'-14')	Lin. Ft.	40		
7	15" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	20		
8	18" PSI-115 PVC Sewer Pipe (0'-6')	Lin. Ft.	679		
9	18" PSI-115 PVC Sewer Pipe (6'-8')	Lin. Ft.	173		
10	18" PSI-115 PVC Sewer Pipe (8'-10')	Lin. Ft.	456		
11	18" PSI-115 PVC Sewer Pipe (10'-12')	Lin. Ft.	1,099		
12	18" PSI-115 PVC Sewer Pipe (12'-14')	Lin. Ft.	818		
13	18" PSI-115 PVC Sewer Pipe (14'-16')	Lin. Ft.	418		
14	18" PSI-115 PVC Sewer Pipe (16'-18')	Lin. Ft.	747		
15	18" PSI-115 PVC Sewer Pipe (18'-20')	Lin. Ft.	168		
16	18" PSI-115 PVC Sewer Pipe (20'-22')	Lin. Ft.	481		
17	24" Steel Casing (Open Cut)	Lin. Ft.	100		
18	Removal of Sewer Pipe Through Existing Box Culvert (Incl Patchwork)	Lin. Ft.	30		
Manhole Items					
19	48" Precast Concrete Sewer Manhole (6'-8')	Each	1		
20	60" Precast Concrete Sewer Manhole (10'-12')	Each	6		
21	60" Precast Concrete Sewer Manhole (12'-14')	Each	2		
22	60" Precast Concrete Sewer Manhole (14'-16')	Each	3		
23	60" Precast Concrete Sewer Manhole (16'-18')	Each	2		
24	60" Precast Concrete Sewer Manhole (20'-22')	Each	2		
25	72" Precast Concrete Sewer Manhole (10'-12')	Each	1		
26	72" Precast Concrete Sewer Manhole (16'-18')	Each	1		
27	Demolition and Removal of Existing Sanitary Manholes (All Types)	Each	16		
28	Drop Manhole Assembly (All Depths)	Each	11		

Proposal					
Site 4 - Meadow Brook Drive Area					
Item	Description	Unit	Quantity	Unit Price	Extension
	Sewer Service Items				
29	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	1,770		
30	Service Connection (Insert a Tee)	Each	61		
31	6" PVC Cleanout	Each	61		
	Miscellaneous Construction Items				
32	Crushed Aggregate (Size 825)	Ton	1,793		
33	Select Fill Material (Class 9, Group C), LVM	Cu. Yd.	15,440		
34	Concrete Side Walk Repair (All Depths)	Sq. Yd.	43		
35	Concrete Pavement Repair (All Depths)	Sq. Yd.	642		
36	Hot Mix Asphalt, ST, 9.5mm	Tons	876		
37	Grouted Rip Rap, Size 200 w/ Geotextile Fabric	Sq. Yd.	206		
38	Remove and Reset Rip Rap w/ Geotextile Fabric and Grout	Sq. Yd.	20		
39	Removal of Existing Steel Casing	LF	42		
40	Remove and Replace Existing Wood Fence	LF	40		
41	Removal of Existing Side Drains	LF	502		
42	Removal of Cross Drains (All Types and Sizes)	Lin. Ft.	56		
43	10" Corrugated HDPE Pipe	Lin. Ft.	8		
44	12" Corrugated HDPE Pipe	Lin. Ft.	197		
45	18" Corrugated HDPE Pipe	Lin. Ft.	60		
46	12" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	56		
47	30" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	32		
48	Class "B" Concrete, Minor Structures	Cu. Yd.	5		
49	Clearing and Grubbing	Lump Sum	1		
50	Grassing	Lump Sum	1		
51	Erosion Control	Lump Sum	1		
52	Mobilization	Lump Sum	1		
53	Maintenance of Traffic	Lump Sum	1		
			Subtotal (Site 4):		

Proposal**Site 5 - J Ed Turner Drive**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	4" Sanitary Sewer Force Main	Lin. Ft.	20		
2	6" Sanitary Sewer Force Main	Lin. Ft.	30		
3	8" Ductile Iron Sewer Pipe (0'-6")	Lin. Ft.	387		
4	8" Ductile Iron Sewer Pipe (6'-8')	Lin. Ft.	13		
5	8" SDR 26 PVC Sewer Pipe (0'-6')	Lin. Ft.	670		
6	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	416		
7	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	107		
8	Concrete Encasement for Sewer Line (Per Plans)	Lin. Ft.	160		
Manhole Items					
9	48" Precast Concrete Sewer Manhole (0'-6')	Each	1		
10	48" Precast Concrete Sewer Manhole (6'-8')	Each	3		
11	48" Doghouse Concrete Sewer Manhole (6'-8')	Each	1		
12	48" Flattop Precast Concrete Sewer Manhole (0'-6')	Each	1		
13	Demolition and Removal of Existing Sewer Manhole	Each	1		
Sewer Service Items					
14	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	126		
15	8"x8"x6" PVC Tee	Each	4		
16	6" PVC Cleanout	Each	4		

	Miscellaneous Construction Items							
17	Water Service Repair (Including Service Tubing, Fittings, Corp Stop, Curb Stop, Tapping Saddle, Etc)				3			
18	Concrete Pavement Repair (All Depths)		Sq. Yd.		20			
19	Hot Mix Asphalt, ST, 9.5mm		Tons		10			
19	Clearing and Grubbing		Lump Sum		1			
21	Grassing		Lump Sum		1			
22	Erosion Control		Lump Sum		1			
23	Mobilization		Lump Sum		1			
24	Maintenance of Traffic		Lump Sum		1			
Subtotal (Site 5):								

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, C.B. Developers, Inc.
as Principal, and Arch Insurance Company
as Surety, are hereby held and firmly bound unto City of Hattiesburg
as Owner, in the penal sum
of Five Percent of Amount Bid 5% DOLLARS
(5%) for the payment of which, well and truly to be made, we
hereby jointly and severally bind ourselves, successors and assigns. Signed, this
18th day of May, 2017. The condition of the above obligation is
such that whereas the Principal has submitted to City of Hattiesburg
a certain BID, attached hereto and hereby made a part hereof to enter
into a contract in writing for the Comprehensive Sewer Improvements

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID.

Then this obligation, shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way be impaired or affected by an extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper offices, the day and year first set forth above.

C.B. Developers, Inc.

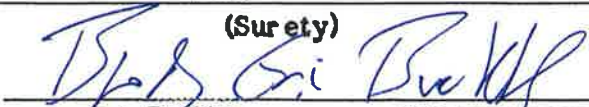
By: 

(Principal)

(L.S.)

Arch Insurance Company

(Surety)

By: 

Brody Eric Buckley

Attorney-in-Fact

Resident MS Agent/Bottrell Insurance

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we, the undersigned, Principal, and _____ as Surety, are hereby held and firmly bound unto _____ as Owner in the penal sum of _____ for payment of which, well and truly made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20__.

The Condition of the above obligation is such that whereas the Principal has submitted to a center BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for the

COMPREHENSIVE SEWER IMPROVEMENTS PHASE V

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year set forth above.

_____(L.S.)
PRINCIPAL

SURETY

BY: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasure Department's most current line (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Brody Eric Buckley

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations.

Surety Bond Number: Bid Bond

Principal: C.B. Developers, Inc.

Obligee: City of Hattiesburg

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

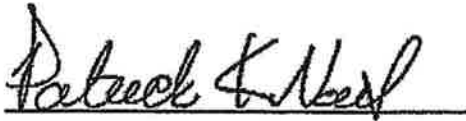
This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

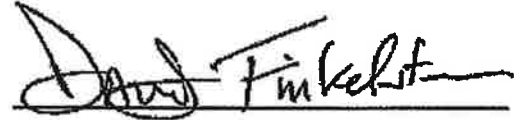
In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this 18th day of May, 2017.

Attested and Certified

Arch Insurance Company



Patrick K. Nails, Secretary

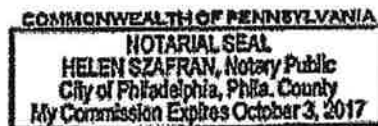



David M. Finkelstein, Executive Vice President

STATE OF PENNSYLVANIA SS

COUNTY OF PHILADELPHIA SS

I, Helen Szafran, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.

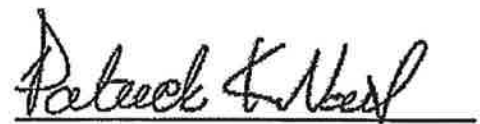



Helen Szafran, Notary Public
My commission expires 10/03/2017

CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated May 18, 2017 on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this 18th day of May, 2017.



Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance – Surety Division
3 Parkway, Suite 1500
Philadelphia, PA 19102



C. B. DEVELOPERS, INC.
938 OLD RIFLE RANGE RD.
PETAL, MS 39465

Ph. 601-582-1600
Ph. 601-583-0005
Fax 601-583-0009
Cbbreland@cbi.com

STATE OF MISSISSIPPI
FORREST COUNTY

RESOLUTION

BE IT RESOLVED THAT Mack Lister IS HEREBY AUTHORIZED, EMPOWERED AND DIRECTED TO EXECUTE FOR AND ON BEHALF OF C.B. Developers, Inc., a corporation, any and all bid and job specific documents including but not limited to price sheets, change orders, certification, addendum, contracts, agreements, and official letters.

C. B. DEVELOPERS, INC.



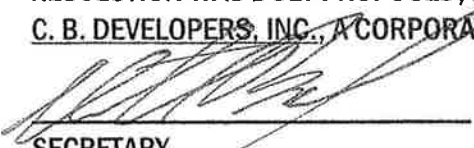
BY: SHERRY BRELAND
TITLE: PRESIDENT

C. B. DEVELOPERS, INC.



BY: CLIFF BRELAND
TITLE: VICE-PRESIDENT

I, Cliff Breland, as secretary of C. B. DEVELOPERS, INC. DO HEREBY CERTIFY THAT THE ABOVE RESOLUTION WAS DULY PROPOSED, ADOPTED, AND RESOLVED, DURING A SPECIAL MEETING OF C. B. DEVELOPERS, INC., A CORPORATION, ON THIS THE 18TH DAY OF June, 2012.


SECRETARY

CONTRACT AGREEMENT

THIS AGREEMENT, made and entered into this ____ day of ____, 20__ by and between C.B. Developers, Inc. hereinafter called the CONTRACTOR, CITY OF HATTIESBURG hereinafter called the OWNER, Witnesseth that the Contractor and the OWNER, for the consideration hereafter named and agrees as follows.

ARTICLE 1: SCOPE OF WORK

The Contractor agrees to furnish all tools, labor, equipment, materials, and supplies required to be furnished, and perform all work required under and in accordance with the plans entitled

COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V

which are on file at the office of the OWNER, and the Specifications, Proposals, General and Special Conditions, attached hereto and made a part hereof as fully as though copied herein, under the direct supervision and to the entire satisfaction of the OWNER and in accordance with the Laws of the State of Mississippi.

ARTICLE 2: THE CONTRACT SUM

It is further agreed and understood by and between the parties hereunto that the OWNER agrees to pay and the Contractor agrees to accept full and final compensation for all work done under this agreement, the lump sum amount adjusted for variation of quantities at the unit prices named in the Proposal, which is hereto attached, such payment to be made in lawful money of the United States, at the time and in the manner hereinafter set forth.

ARTICLE 3: TIME OF COMPLETION

The Contractor agrees, for the consideration above expressed, to begin and complete the work within the time specified in the Proposal. If the Contractor fails to complete the work in the time specified, he shall pay the OWNER as **liquidated damages**, ascertained and agreed, and not in the nature of a penalty, the sum of \$ 750.00 for each day delayed, which shall be deducted from the final amount to be paid under the contract; provided that the extension of time with the waiver of liquidation damages may be granted as provided for in the Specifications.

ARTICLE 4: PROGRESS PAYMENTS

The owner agrees to make progress payments during the construction as provided herein as follows:

The ENGINEER will on or before the tenth (10th) day of each month make an estimate of the value of the work done, based on contract prices.

The OWNER agrees to pay the CONTRACTOR 100% of the value of the work done each month, less ten percent (10%) retainage until final acceptance of the work has been made).

ARTICLE 5: ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final acceptance and inspection, the Engineer shall promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he shall promptly issue a final certificate, over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof. Then, the entire balance shall be due the Contractor within thirty (60) days the date of said final acceptance.

Before issuance of final certificate, the Contractor shall submit evidence satisfactory to the ENGINEER that all payrolls, materials, bills, and other indebtedness connected with the work have been paid.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER, other than those arising from unsettled liens, from faulty work or materials appearing within one (1) year after payment, or claims previously made and still unsettled.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Engineer, so certifies, the OWNER shall, upon certificate of the Engineer and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE 6: THE PERFORMANCE BOND

The Contractor agrees to furnish a bond, with an approved surety thereon guaranteeing the performance of this contract, in no less than one hundred percent (100%) of the amount of the Contract. Said Bond shall be conditioned on full and complete performance of the Contract, and for the payment of all labor and materials for a period of one (1) year after completion. The Surety on said Bond shall be a surety company of financial resources satisfactory to the OWNER and authorized to do business in the State of Mississippi.

ARTICLE 7 INSURANCE

The Contractor agrees to also carry Public Liability Insurance, Property Damage Insurance, and Workman's Compensation Insurance in amounts as required by the Specifications.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

OWNERS:

City of Hattiesburg

SEAL

BY _____

Title _____

ATTEST _____

CONTRACTOR

C.B. Developers, Inc.

BY  _____

SEAL

Title Project Manager

ATTEST 

PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: THAT WE, the Undersigned (hereinafter called the Principal), a corporation, partnership or individual duly unauthorized by law to do business as a construction contractor in the State of Mississippi, and of Arch Insurance Company (herein called the Surety), a corporation duly authorized to do a surety business under the laws of the State of Mississippi, are held and firmly bound unto the City of Hattiesburg, (hereinafter called the Obligee), a Mississippi Corporation existing under the laws of the State of Mississippi, in the penal sum of Dollars (\$1,077,240.50) lawful money of the United States, for the payment of which well and truly to be made, the said Principal and the said Surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents, as follows:

The Condition of this obligation is such that; whereas Principal by an instrument in writing attached hereto and bearing date of has agreed with said Obligee to do all work necessary and to furnish labor, materials, tools, supplies and services to construct COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V as shown on Plans and specified thereby in the Specifications, Proposal and other Contract Documents hereto attached.

NOW THEREFORE, if said Principal shall well and truly in good, sufficient and workmanlike manner, and to the satisfaction of Obligee perform and complete the work required, and shall defend, indemnify and save harmless said Obligee against all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising out of injury or damage to persons or property by reason or arising from any act, omission or neglect of said Principal, his agent, servants or employees with relation to said work; and shall pay all cost, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to Obligee completed and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to Obligee by reason of any default or neglect of the said Principal in the relation of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said surety for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract, or the work to be performed thereunder, or the Specifications accompanying the same, shall in any way affect its obligation on this bond and does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

PROVIDED FURTHER, that if Principal, or his, or its subcontractor or subcontractors fail to duly pay for any labor, materials, team hire, sustenance provisions or any other supplies or

materials used or consumed by such Principal or his, their or its subcontractors in performance of the work contracted to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest as provided by law.

IN WITNESS THEREOF: Said Principal and surety have hereunto set their hands and seals at this _____ day of _____, 20__.

(SEAL)

C.B. Developers, Inc.

PRINCIPAL

WITNESSES:

C. S. F. Bill
J. R.

1716 Evelyn Gandy Parkway, Suite 40, Hattiesburg, MS 39401

ADDRESS

[Signature]
Name of person executing for Principal

Project Manager
Title

Arch Insurance Company

SURETY

WITNESSES:

[Signature]
[Signature]
Peggy Jackson
Wes Price

Witness

Title

Harborside 3, 210 Hudson Street, Suite 300
Jersey City, NJ 07311-1107

ADDRESS

[Signature]
Name of person executing for Surety

Brody Eric Buckley/Attorney-in-Fact
Resident MS Agent/Bottrell Insurance
P.O. Box 1490
Jackson, MS 39215-1490

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Brody Eric Buckley

its true and lawful Attorney(s)-in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations.

Surety Bond Number: SU 1145476

Principal: C.B. Developers, Inc.

Obligee: City of Hattiesburg

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

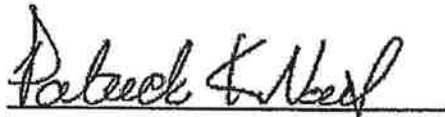
This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

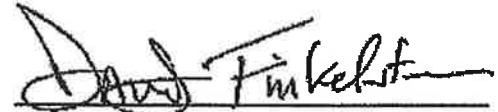
In Testimony Whereof, the Company has caused this Instrument to be signed and its corporate seal to be affixed by their authorized officers, this _____ day of _____, 20____.

Attested and Certified

Arch Insurance Company







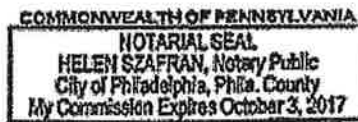
Patrick K. Nails, Secretary

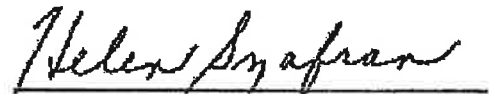
David M. Finkelstein, Executive Vice President

STATE OF PENNSYLVANIA SS

COUNTY OF PHILADELPHIA SS

I, Helen Szafran, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.



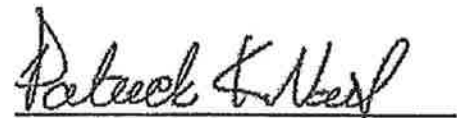


Helen Szafran, Notary Public
My commission expires 10/03/2017

CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated _____ on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this _____ day of _____, 20____.



Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance – Surety Division
3 Parkway, Suite 1500
Philadelphia, PA 19102





CBDEVEL-01

ACOOK

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

08/14/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Fisher Brown Bottrell Insurance, Inc. P. O. Box 1490 Jackson, MS 39215	CONTACT NAME: Angie Cook, CIC, PIAM	
	PHONE (A/C, No, Ext): (601) 960-8244 FAX (A/C, No): (601) 208-3044	
	E-MAIL ADDRESS: acook@fbbins.com	
INSURED C B Developers, Inc. 1716 Evelyn Gandy Parkway, #40 Hattiesburg, MS 39401	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A: Brierfield Insurance Company	10993
	INSURER B: American Interstate Insurance	31895
	INSURER C: Travelers Property Casualty Company of America	25674
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR ☒ PD Ded: \$2,000 GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PRO-JECT ☒ LOC OTHER:			GL0013568	05/17/2017	05/17/2018	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
A	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO OWNED AUTOS ONLY ☐ SCHEDULED AUTOS HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY			CA10001384101	05/17/2017	05/17/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	☒ UMBRELLA LIAB ☒ OCCUR EXCESS LIAB ☐ CLAIMS-MADE DED ☒ RETENTION \$ 10,000			UMB0014332	05/17/2017	05/17/2018	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 Prod/Co Ops Agg \$ 5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) ☐ Y/N If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	AVWCMS2562322017	01/01/2017	01/01/2018	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	Leased/Rented Equip			CM0006842	05/17/2017	05/17/2018	Ded See Below 260,000
C	Installation Floater			6603222R85A	09/10/2016	09/10/2017	Ded: \$5,000 4,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
The above referenced general liability, automobile liability & Umbrella liability policies contain blanket additional insured wording where required by written contract. General Liability includes ongoing & completed operations & is on a primary/non-contributory basis where required by written contract. General Liability, Automobile Liability & Workers Compensation policies contain blanket waiver of subrogation wording when required by written contract. Additional Insured Status applies as per forms attached to the policy & available for review upon request: GL (CGL084 10/13 & CGL088 10/13) AUTO (CAU058 01/15) UMB (CU0001 12/07) All coverage is subject to policy terms, conditions and exclusions.

REFERENCE ONLY:
SEE ATTACHED ACORD 101

CERTIFICATE HOLDER

CANCELLATION

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403-1898

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



LOC #: 1

ADDITIONAL REMARKS SCHEDULE

Page 1 of 1

AGENCY Fisher Brown Bottrell Insurance, Inc.		NAMED INSURED C B Developers, Inc. 1716 Evelyn Gandy Parkway, #40 Hattiesburg, MS 39401	
POLICY NUMBER SEE PAGE 1			
CARRIER SEE PAGE 1	NAIC CODE SEE P 1	EFFECTIVE DATE: SEE PAGE 1	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles:

Project: Comprehensive Water Improvements - Phase II, Palmers Crossing and Irene Chapel

Project: Comprehensive Sewer Improvements - Phase V

Project: Comprehensive Water Improvements Phase IV Miscellaneous Connections

Project: Water Line Extension along Old Highway 98 East and W. L. Runnels Industrial Drive

Project: Comprehensive Water Improvements Phase I,

Project: 592 Program Sewer Rehabilitation, Contract No. 3, City of Hattiesburg, MS Contract amount \$1,996,351.79

Project: Water System Extension on Veteran's Memorial Blvd. and South 28th Ave \$1,361,828.84

NOTICE OF AWARD

TO: C.B. Developers, Inc.
1716 Evelyn Gandy Pkwy
Hattiesburg, MS 39401

Project: **COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V**

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated March 2, 2017, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$ 1,077,240.50.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20__.

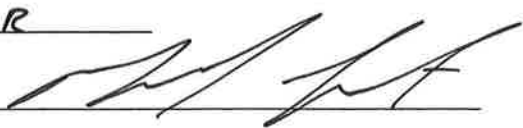
City of Hattiesburg
OWNER

By: _____
Title: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by
This the _____ day of _____, 20__

Title: Project Manager

Signature: 

NOTICE TO PROCEED

TO: C.B. Developers, Inc. DATE: _____
1716 Evelyn Gandy Pkwy
Hattiesburg, MS 39401

Project: COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 20__ on or before _____, 20__, and you are to complete the WORK within 300 consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, 20__.

CITY OF HATTIESBURG
OWNER

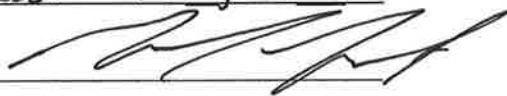
BY: _____

TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____ this the __ day of _____, 20__.

Title: Project Manager
Signature: 

GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meaning indicated which shall be applicable to both the singular and plural thereof.

ACCEPTANCE: By the OWNER of the Work as being fully complete in accordance with the Contract Documents.

AGREEMENT: The written agreement between the OWNER and the CONTRACTOR covering the Work to be performed; the Contract Documents are attached to and made a part of the Agreement. Also designated as the Contract.

ADDENDA: Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by addition, deletions, clarifications or corrections.

APPLICATION FOR PAYMENT: The form furnished by the ENGINEER which is to be used by the CONTRACTOR in requesting progress payments and an affidavit of the CONTRACTOR that progress payments theretofore received from the OWNER on account of the WORK have been applied by the CONTRACTOR to discharge in full all of the CONTRACTOR'S obligations stated in prior Applications for Payment.

APPROVAL: Accept as satisfactory.

BID: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BIDDER: Any person, firm or corporation submitting a Bid for the Work.

BONDS: Bid, performance and payment bonds and other instruments of security furnished by the CONTRACTOR and his surety in accordance with the Contract Documents and in accordance with the law of the place of the project.

CHANGE ORDER: A written order to the CONTRACTOR signed by the OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

CONTRACT DOCUMENTS: The Agreement, Addenda, Instructions to Bidders, CONTRACTOR'S BID, the Bonds, the Notice of Award, these General Conditions, the Supplementary conditions, Special Conditions, Technical Conditions, the Specifications, Drawings and Modifications, and Notice to Proceed.

CONTRACT PRICE: The total moneys payable to the CONTRACTOR under the Contract Documents.

CONTRACT TIME: The number of calendar days stated in the Agreement for the completion of the Work.

CONTRACTING OFFICER: The owner (Grantee)- The individual who is authorized to sign the contract documents on behalf of the owner's governing body.

CONTRACTOR: The person, firm or corporation with whom the OWNER has executed the Agreement.

DAY: A calendar day of twenty-four hours measured from midnight to the next midnight.

DRAWINGS: The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the ENGINEER and are referred to in the Contract Documents.

ENGINEER: The person, firm or corporation named as such in the Contract Documents.

FIELD ORDER: A written order issued by the ENGINEER which clarifies or interprets the Contract Documents in accordance with Paragraph 9.3 or orders minor changes in the Work in accordance with paragraph 10.2.

MODIFICATION: (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order (c) a written clarification or interpretation issued by the ENGINEER in accordance with paragraph 9.3 or (d) a written order for a minor change or alteration in the Work issued by the ENGINEER pursuant to paragraph 10.2. A modification may only be issued after execution of the Agreement.

NOTICE OF AWARD: The written notice by OWNER to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by him within the time specified, OWNER will execute and deliver the Agreement to him.

NOTICE TO PROCEED: A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligations under the Contract Documents.

OWNER: A public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.

PROJECT: The entire construction to be performed as provided in the Contract Documents.

CONSTRUCTION OBSERVER

RESIDENT INSPECTOR

CONSTRUCTION INSPECTOR

PROJECT REPRESENTATIVE: An authorized representative of the ENGINEER assigned to

observe the Work performed and materials furnished by the CONTRACTOR or such other person as may be appointed by the OWNER as his representative. The CONTRACTOR shall be notified in writing of the identity of this representative.

SHOP DRAWINGS: All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work and as required by the Contract Documents.

SAMPLES: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

SPECIFICATIONS: Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

SUBCONTRACTOR: An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION: The stage in construction when a project can be utilized for the purposes for which it was intended. At substantial completion, minor items and items that are seasonally restricted need not be completed, but the items that affect operational integrity and function of the facility must be capable of continuous use.

SUPPLEMENTARY GENERAL CONDITIONS: Federal Conditions in effect at time of submission of Bid.

SUPPLIER: Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

SPECIAL CONDITIONS: When included as a part of the Contract Documents, Special Conditions refer only to the Work under this Contract.

SURETY: The corporate body which is bound with the CONTRACTOR and which engages to be responsible for the CONTRACTOR and his acceptable performance of the Work.

WORK: Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by CONTRACTOR under the Contract Documents, including all labor, materials, equipment and other incidentals, and the furnishing thereof.

WRITTEN NOTICE: The term "Notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with Contract requirements. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or to an authorized representative of such individual, firm or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the

notice. Unless otherwise stated in writing, any notice to or demand upon the OWNER under this Contract shall be delivered to the OWNER through the ENGINEER.

ARTICLE 2 - PRELIMINARY MATTERS:

AWARD:

2.1 The award of the Contract, if it is awarded, will be to the lowest responsible, responsive Bidder. No Notice of Award will be given until the OWNER has concluded such investigations as he deems necessary to establish the responsibility, qualifications, and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the BID of any Bidder who does not pass such investigation to the OWNER'S satisfaction. In analyzing Bids, the OWNER may take into consideration alternates and unit prices, if requested by the Bid Form. If the Contract is awarded, the OWNER will issue the NOTICE of AWARD and give the successful Bidder a contract for execution within sixty (60) days after the opening of Bids.

EXECUTION OF AGREEMENT:

2.2 At least three counterparts of the Agreement and such other Contract Documents will be executed and delivered by CONTRACTOR to the OWNER within 10 working days or 15 calendar days of receipt from the OWNER.

FORFEITURE OF BID SECURITY:

2.3 Failure of the successful Bidder to execute and deliver the Agreement and deliver the required Bonds as stipulated in paragraph 2.2 shall be just cause for the OWNER to annul the Notice of Award and declare the Bid and any security therefore forfeited.

CONTRACTOR'S PRE-START REPRESENTATIONS:

2.4 CONTRACTOR represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the Contract Documents, Work, Locality, and local conditions and will obey all federal, state, and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that he has correlated his study and observations with the requirements of the Contract Documents. CONTRACTOR also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the Specifications and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

COMMENCEMENT OF CONTRACT TIME:

2.5 The Contract Time will commence to run no less than the 15 days after receipt by the CONTRACTOR of the Notice to Proceed.

STARTING THE PROJECT:

2.6 CONTRACTOR shall start to perform his obligations under the Contract Documents on the date when the Contract Time commences to run. No Work shall be done at the site prior to the date on which the Contract Time commences to run, except with the written consent of the OWNER.

BEFORE STARTING CONSTRUCTION:

2.7 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. He shall at once report in writing to ENGINEER any conflict, error or discrepancy which he may discover; however, he shall be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Drawings or Specifications.

SCHEDULE OF COMPLETION:

2.8 Within ten (10) days after delivery of the Notice to Proceed by OWNER to CONTRACTOR, CONTRACTOR shall submit to ENGINEER an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the Work, and a preliminary schedule of Shop Drawing submissions. See paragraphs 6.22 through 6.26. The ENGINEER shall review and return this schedule or require revisions thereto within 14 days of its submittal. If there is more than one CONTRACTOR involved in a project, the responsibility for coordinating the Work of all CONTRACTORS shall be as provided in the Special Conditions.

2.9 Within twenty (20) days after delivery of the executed agreement by OWNER to CONTRACTOR, but before starting the Work at the site, a preconstruction conference will be held to review the above schedules, to establish procedures for handling shop drawings and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the project. Present at the conference will be the OWNER or his representative, ENGINEER, Resident Project Representatives, CONTRACTOR and his Superintendent.

QUALIFICATION OF SUBCONTRACTORS MATERIALMEN AND SUPPLIERS:

2.10 Within ten (10) working days after bid opening, the CONTRACTOR will (if required) submit to the OWNER and the ENGINEER for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish principal items of material or equipment) proposed for those portions of the Work as to which the identity of the Subcontractors and other person and organizations must be submitted as specified in the Contract Documents. Within thirty (30) working days after receiving the list, the ENGINEER will notify the CONTRACTOR in writing if either the OWNER or the ENGINEER, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the OWNER or the ENGINEER to make objection to any Subcontractor, person or organization on the list within thirty days of receipt shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the OWNER or the ENGINEER to reject defective Work, material or equipment, or Work, material or equipment not in conformance with the requirements of the

Contract Documents.

**ARTICLE 3 - CORRELATION, INTERPRETATION AND
INTENT OF CONTRACT DOCUMENTS:**

3.1 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR. They may be altered only by a Modification.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall call it to the ENGINEER'S attention in writing at once and before proceeding with the Work affected thereby; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Specifications or Drawings. The various Contract Documents shall be given precedence, in case of conflict, error or discrepancy, as follows: Agreement Modifications, Addenda, Special Conditions, Instructions to Bidders, General Conditions, Technical Specifications and Drawings.

3.3 The words "furnish", "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service."

3.4 Miscellaneous items and accessories which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or usable structure or plant providing the indicated function, shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards including material, style, finish, strength, class, weight and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the ENGINEER before installation. The above requirement is not intended to include major components not covered by or inferable from the Drawings and Specifications.

3.5 The Work of all trades under this Contract shall be coordinated by the CONTRACTOR in such a manner as to obtain the best workmanship possible for the entire Project, and all components of Work shall be installed or erected in accordance with the best practices of the particular trade.

3.6 Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes or standard specifications or other data published by regulating agencies or accepted organizations, including but not limited to National Electrical Code, applicable State Building Code, Federal Specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of Bid.

3.7 Brand names where used in the Technical Specifications, are intended to denote the standard of quality required for the particular material or product. The use of a brand name item is to set a standard of quality and is not intended to restrict the Contractor from offering an equal item from other source(s) of supply. The term "equal" or "equivalent" when used in connection

with brand names, shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color and other applicable characteristics to the material or product specified by trade name, and that is for the same use and capable of performing the same function, in the opinion of the ENGINEER, as the material or product so specified. Proposed equivalent items must be approved by ENGINEER before they are purchased or incorporated in the Work.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE CONDITIONS; **REFERENCE POINTS:**

Availability of Lands

4.1 The OWNER will furnish, as indicated in Contract Documents the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise specified in the Contract Documents. Other access to such lands or rights-of-way for the CONTRACTOR'S convenience shall be the responsibility of the CONTRACTOR. The CONTRACTOR will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 The OWNER will, upon request, furnish to the BIDDERS copies of all available boundary surveys.

Subsurface Conditions:

4.3 The CONTRACTOR acknowledges that he has investigated prior to bidding and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the grounds, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The CONTRACTOR further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done on behalf of the OWNER on the site or any contiguous site, as well as from information presented by the Drawings and Specifications made a part of this Contract, or any other information made available to him prior to receipt of Bids. Any failure by the CONTRACTOR to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The OWNER assumes no responsibility for any conclusions or interpretations made by the CONTRACTOR on the basis of the information made available by the OWNER.

Differing Site Conditions

4.4 (a) The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual

nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above.

(c) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

ARTICLE 5 - BONDS AND INSURANCE:

Performance and Payment Bonds:

5.1 The contractor's attention is directed to the Information For Bidders.

Contractor's Liability Insurance:

5.2 The CONTRACTOR shall provide the OWNER with insurance certificates certifying that all required insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

5.3 The CONTRACTOR agrees that if any part of the Work under the contract is sublet, he will require the Subcontractor(s) to carry insurance as required, and that he will require the Subcontractor(s) to furnish to him insurance certificates similar to those required by the OWNER in 5.1 above.

5.4 The CONTRACTOR agrees to add ENGINEER to insurance policy as additional insured.

Owner's Liability Insurance

5.4 The OWNER will be responsible for purchasing and maintaining his own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the Contract Documents.

Fire and Extended Coverage Insurance (Builders' Risk):

5.5 The CONTRACTOR shall maintain, as applicable, in an Insurance Company or Insurance Companies acceptable to the OWNER, Fire, Extended Coverage and Vandalism & Malicious Mischief Insurance on buildings and structures, while in the course of construction, including foundations, additions, attachments and all permanent fixtures belonging to and constituting a part of said buildings or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the Contract. The amount of insurance must at all times be at least equal to the actual cash value of the insured property. The policy shall be in the name of the

OWNER and the CONTRACTOR, as their interests may appear, and shall also cover the interests of all Subcontractors performing work.

5.6 The CONTRACTOR shall provide the OWNER with satisfactory evidence certifying that the foregoing insurance is in force; and such evidence shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

Cancellation and Re-Insurance:

5.7 If any insurance should be canceled or changed by the insurance company or should any insurance expire during the period of this Contract, the CONTRACTOR shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this Contract.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES:

Supervision and Superintendence:

6.1 The CONTRACTOR will supervise and direct the Work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work. (Copies of written communications given to the Superintendent shall be mailed to the Contractor's home or office.)

Labor, Materials and Equipment:

6.2 The CONTRACTOR will provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order at the site.

6.3 The CONTRACTOR will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

6.4 All materials and equipment will be new, except as otherwise provided in the Contract Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

6.5 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

Materials, Equipment, Products and Substitutions:

6.6 Materials, equipment and products incorporated in the Work must be approved for use before being purchased by the CONTRACTOR. The CONTRACTOR shall submit to the ENGINEER a list of proposed materials, equipment or products, together with such samples as may be necessary for him to determine their acceptability and obtain his approval, within ninety (90) calendar days after award of Contract. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the ENGINEER.

6.6.1 Whenever a material, article or piece of equipment is identified on the drawings or Specifications by reference to brand names or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand names or catalog number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Incidental charges or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the Contract Price, or Contract Time.

6.6.2 No substitute shall be ordered or installed without the written approval of the ENGINEER who shall be the judge of equality.

6.6.3 Delay caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.

6.6.4 Should any work or materials, equipment or products not conform with requirements of the Drawings and Specifications or become damaged during the process of the Work, such Work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the Project. All such work shall be done at the expense of the CONTRACTOR. (See paragraph 7.10)

6.6.5 No materials or supplies for the Work shall be purchased by the CONTRACTOR or by any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the Seller. The CONTRACTOR warrants that he has good title to all materials and supplies used by him in the Work.

Concerning Subcontractors:

6.7 The CONTRACTOR will not employ any Subcontractor, other person or organization of the types referred to in paragraph 2.10 (whether initially or as a substitute) against whom the OWNER or the ENGINEER may have reasonable objection, nor will the CONTRACTOR be required to employ any Subcontractor against whom he has reasonable objection. The CONTRACTOR will not make any substitution for any Subcontractor who has been accepted by the OWNER and the ENGINEER, unless the ENGINEER determines that there is good cause for doing so.

6.8 The CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any Subcontractor or other person or organization having a direct contract with CONTRACTOR, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER or ENGINEER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done in accordance with the schedule of values.

6.9 The divisions and sections of the Specifications and the identifications of any drawings shall not control the CONTRACTOR in dividing the work among Subcontractors or delineating the Work to be performed by any specific trade.

6.10 The CONTRACTOR agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the OWNER.

6.11 All Work performed for the CONTRACTOR by a Subcontractor shall be pursuant to an appropriate agreement between the CONTRACTOR and the Subcontractor.

6.12 The CONTRACTOR shall be responsible for the coordination of the trades, Subcontractors and material men engaged upon his Work.

6.12.1 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the CONTRACTOR by the terms of these General Conditions and other Contract Documents insofar as applicable to the Work of Subcontractors, and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provisions of the Contract Documents.

6.12.2 The OWNER or ENGINEER will not undertake to settle any differences between the CONTRACTOR and his Subcontractors or between Subcontractors.

6.12.3 If in the opinion of the ENGINEER, any Subcontractor on the project proves to be incompetent or otherwise unsatisfactory, he shall be replaced if and when directed in writing.

Patent Fees and Royalties:

6.13 The CONTRACTOR will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

6.14 The CONTRACTOR shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles or systems prior to bidding. However, he shall not be responsible for such determination on systems which do not involve purchase by him of materials, appliances, and articles.

Permits:

6.15 The CONTRACTOR will secure and pay for all construction permits and licenses and will pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of his Bid. When such charges are normally made by the OWNER, there will be no charges to the CONTRACTOR. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR will also pay all public utility charges.

Laws and Regulations:

6.16 The CONTRACTOR will give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, he will give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he will bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and regulations.

Taxes:

6.17 Cost of all sales and other taxes for which the CONTRACTOR is liable under the Contract shall be included in the Contract Price stated by the CONTRACTOR.

Record Drawings:

6.18 The CONTRACTOR will keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Engineer and shall be delivered to him for the OWNER upon completion of the Project. It shall be used for this purpose only.

Safety and Protection:

6.19 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

6.19.1 All employees on the work and other persons who may be affected thereby.

6.19.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

6.19.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

6.20 The CONTRACTOR will designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the CONTRACTOR'S superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER.

Emergencies:

6.21 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He will give the ENGINEER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved. If the CONTRACTOR believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

Shop Drawing and Samples:

6.22 After checking and verifying all field measurements, the CONTRACTOR will submit to the ENGINEER for review, in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9) copies (or at the ENGINEER'S option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the CONTRACTOR. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the ENGINEER to review the information as required.

6.23 The CONTRACTOR will also submit to the ENGINEER for review, with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the CONTRACTOR, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

6.24 At the time of each submission, the CONTRACTOR will in writing call the ENGINEER'S attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.

6.25 The ENGINEER will review with reasonable promptness Shop Drawings and samples, but his review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The CONTRACTOR will make any corrections required by the ENGINEER and will return the required number of corrected copies of Shop Drawings and resubmit new samples until the review is satisfactory to the

ENGINEER. The CONTRACTOR shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the ENGINEER on previous submissions. The CONTRACTOR'S stamp of approval on any Shop Drawings or sample shall constitute a representative to the OWNER and the ENGINEER that the CONTRACTOR has either determined and verified all quantities, dimensions, field construction criteria, materials, catalogue numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawings or sample with the requirements of the Work and the Contract Documents.

6.26 No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been reviewed by the ENGINEER. A copy of each Shop Drawing and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6.27 The ENGINEER'S review of Shop Drawings or samples shall not relieve the CONTRACTOR from his responsibility for any deviations from the requirements of the Contract Documents unless the CONTRACTOR has in writing called the ENGINEER'S attention to such deviation at the time

of submission and the ENGINEER has given written approval to the specific deviation, nor shall any review by the ENGINEER relieve the CONTRACTOR from responsibility for errors or omission in the Shop Drawings.

Cleaning Up:

6.28 Site. The CONTRACTOR shall clean up behind the Work as much as is reasonably possible as the Work progresses. Upon completion of the Work, and before acceptance of and final payment for the Project by the owner, the CONTRACTOR shall remove all his surplus and discarded materials excavated material and rubbish from the roadways, sidewalks, parking areas, lawns and all adjacent property; shall clean his portion of Work involved in any building under this Contract, so that no further cleaning by the OWNER is necessary prior to his occupancy; shall restore all property, both public and private, which has been disturbed or damaged during the prosecution of the Work; and shall leave the whole in a neat and presentable condition.

6.29 Clean-up operations shall consistently be carried on by the CONTRACTOR at all times to keep the premises free from accumulation of waste materials and rubbish. Upon completion of the Work he shall remove all rubbish, tools, scaffolding, surplus materials, etc., and shall leave his work "broom clean", or its equivalent, unless more exactly specified elsewhere in the Contract. The General CONTRACTOR shall do the following special cleaning for all trades upon completion of the Work:

6.30 General. In case of dispute, the OWNER may remove the rubbish and charge the cost to the several contractors as the ENGINEER shall determine to be just.

Public Convenience and Safety:

6.31 The CONTRACTOR shall, at all times, conduct the Work in such a manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of the Work shall be provided for in a satisfactory manner, consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the Work, in a conspicuous position at such locations as traffic demands. At any time that streets are required to be closed, the CONTRACTOR shall notify law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

Sanitary Provisions:

6.32 The General CONTRACTOR shall furnish necessary toilet conveniences, secluded from public observation, for use of all personnel on the Work, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the Public Authorities having jurisdiction. He shall commit no public nuisance. Temporary sanitary facilities shall be removed upon completion of the Work and the premises shall be left clean.

Indemnification:

6.33 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses, and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss, or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

6.34 In any and all claims against the OWNER or the ENGINEER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.35 The obligations of the CONTRACTOR under paragraph 6.33 shall not extend to the liability of the Engineer's negligent acts, errors or omissions or those of his employees or agents.

Responsibility for Connecting to Existing Work:

6.36 It shall be the express responsibility of the CONTRACTOR to connect his Work to each part of the existing work or work previously installed as required by the Drawings and Specifications to provide a complete installation.

Work in Street, Highway and Other Rights-of-Way:

6.37 Excavation, grading, fill, storm drainage, paving and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines (either aerial, surface or subsurface), etc., shall be done in accordance with requirements of the special conditions. The OWNER will be responsible for obtaining all permits necessary for the work. Upon completion of the Work, CONTRACTOR shall present to ENGINEER certificates, in triplicate, from the proper authorities stating that the Work has been done in accordance with their requirements.

6.37.1 The OWNER will cooperate with the CONTRACTOR in obtaining action from any utilities or public authorities involved in the above requirements.

6.37.2 The ENGINEER shall be responsible for obtaining elevations of curbs and gutters, pavement, storm drainage structures, and other such items which must be established by governmental departments as soon as grading operations are begun on the site and, in any case, sufficiently early in the construction period to prevent any adverse effect on the Project.

Cooperation with Governmental Departments, Public Utilities, Etc:

6.38 The OWNER shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph

facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structure connected therewith, that are encountered in the work in order that such items may be properly shored, supported and protected, or the CONTRACTOR may relocate them if he so desires. The CONTRACTOR shall give all proper notices, shall comply with requirements of such parties in the performance of his Work, shall permit entrance of such parties on the Project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this work.

6.38.1 The CONTRACTOR'S attention is called to the fact that there may be delays on the Project due to work to be done by governmental departments, public utilities , and others in repairing or moving poles, conduits, etc. The CONTRACTOR shall cooperate with the above parties, in every way possible, so that the construction can be completed in the least possible time.

6.38.2 The CONTRACTOR shall have made himself familiar with all codes, laws, ordinances and regulations which in any manner affect those engaged or employed in the Work, or materials and equipment used in or upon the Work, or in any way affect the conduct of the Work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

Use of Premises:

6.39 CONTRACTOR shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, permits, and directions of ENGINEER and OWNER, and shall not unnecessarily encumber any part of site.

6.39.1 CONTRACTOR shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the Work to stresses or pressures that will endanger it.

6.39.2 CONTRACTOR shall enforce OWNER'S instructions in connection with signs, advertisements, fires and smoking.

6.39.3 CONTRACTOR shall arrange and cooperate with OWNER in routing and parking of automobiles of his employees, subcontractors and other personnel and in routing material delivery trucks and other vehicles to the Project Site.

Protection of Existing Property Improvements:

6.40 Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings or structures (including portions thereof), trees, and shrubbery not indicated on

the Drawings or noted in the Specifications as being removed or altered shall be protected from damage during construction of the Project. Any such improvements damaged during construction of the Project shall be restored to a condition equal to that existing at time of award of Contract.

Temporary Heat:

6.41 The General CONTRACTOR shall provide heat, fuel and services as necessary to protect all work and materials, within all habitable areas of permanent building construction, for all contracts against injury from dampness and cold until final acceptance of all work and materials for the Project, unless building is fully occupied by the OWNER prior to such acceptance, in which case the OWNER shall assume all expenses of heating from date of full occupancy. In areas outside those covered above, each prime contractor shall be responsible for providing such temporary heat, fuel and services as required to protect his work or shall make all necessary arrangements with the General CONTRACTOR for providing such temporary heat, fuel and services. Unless otherwise specifically permitted by Special Conditions, the permanent heating system shall not be used to provide temporary heat. CONTRACTOR'S proposed methods of heating shall be submitted for approval.

ARTICLE 7 - WORK BY OTHERS:

7.1 The OWNER may perform additional work related to the Project by himself, or he may let other direct contracts therefor which shall contain General Conditions similar to these. The CONTRACTOR will afford the other contractors who are parties to such direct contracts (or the OWNER, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

7.2 If any part of the CONTRACTOR'S work depends for proper execution or results upon the work of any such other CONTRACTOR (or the OWNER), the CONTRACTOR will promptly report to the ENGINEER in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

7.3 The CONTRACTOR will do all cutting, fitting, and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The CONTRACTOR will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and of the other contractors whose work will be affected.

7.4 If the performance of additional work by other contractors or the OWNER is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work. If the CONTRACTOR believes that the performance of such additional work by the OWNER or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provide in Articles 11 and 12.

7.5 Where practicable, the General CONTRACTOR shall build around the work of other separate contractors or shall leave chases, slots and holes as required to receive and to conceal

within the general construction work the work of such other separate contractors as directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the ENGINEER.

7.6 Necessary chases, slots and holes not built or left by the General CONTRACTOR shall be cut by the separate contractor requiring such alterations after approval of the General CONTRACTOR. The General CONTRACTOR shall do all patching and finishing of his Work where cut by other contractors at the expense of such other contractors.

7.7 Cooperation is required in the use of site facilities and in the detailed execution of the Work. Each CONTRACTOR shall coordinate his operations with those of the other contractors for the best interest of the Work in order to prevent delay in the execution thereof.

7.8 Each CONTRACTOR shall keep himself informed of the progress of the work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the CONTRACTOR shall notify the ENGINEER immediately. Lack of such notice to the ENGINEER will be construed as acceptance by the CONTRACTOR of the status of the work of other contractors as being satisfactory for proper coordination of his own work.

7.9 Each CONTRACTOR shall give notices of the progress of his work so as to allow other contractors adequate opportunity to properly direct and coordinate their work. The General Contractor shall give notices of the progress of his Work so that work of other contractors, when required to be concealed, may be placed before the general construction Work. All such notices shall be submitted to the ENGINEER with copies to other prime contractors on the Project sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 The cost of extra work resulting from lack of notices, untimely notices, failure to respond to notices, defective work or lack of coordination shall be borne by the CONTRACTOR responsible for such lack of notices, etc.

ARTICLE 8 - OWNER'S RESPONSIBILITIES:

8.1 The OWNER will issue all communications to the CONTRACTOR through the ENGINEER.

8.2 In case of termination of the employment of the ENGINEER, the OWNER will appoint an engineer against whom the CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration, if mutually agreeable.

8.3 The OWNER will furnish the data required of him under the Contract Documents promptly and shall make payments to the CONTRACTOR promptly after they are due as provided in Article 14.

8.4 OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1, 4.4 and the Special Conditions.

Paragraphs 4.2 and 4.3 refer to OWNER'S identifying and making available to CONTRACTOR copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications.

8.5 The OWNER'S responsibilities in respect of liability and property insurance are set forth in paragraph 5.4.

8.6 In addition to his rights to request changes in the Work in accordance with Article 10, the OWNER (especially in certain instances as provided in paragraph 10.4) will be obligated to execute Change Orders.

8.7 In connection with the OWNER'S right to stop Work or suspend Work, see paragraph 15.1. Paragraph 15.3 deals with the OWNER'S right to terminate services of the CONTRACTOR under certain circumstances.

8.8 The OWNER shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the fact that the time for completing the entire Work or any portion thereof may not have expired; but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the Work, the CONTRACTOR shall be entitled to such extra compensation or extension of time or both, except by prior agreement, as the ENGINEER may determine. See paragraph 14.11.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION:

Owner's Representative:

9.1 The ENGINEER shall be the OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER'S representative during construction are set forth in Articles 1 through 17 of these General Conditions and shall not be extended without written consent of the OWNER and the ENGINEER.

9.1.1 The ENGINEER'S decision, in matters relating to aesthetics shall be final, if within the terms of the Contract Documents.

9.1.2 Except as may be otherwise provided in this contract all claims, counter-claims, disputes and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this agreement or the breach thereof will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the State in which the OWNER is located.

Visits to Site:

9.2 The ENGINEER will make periodic visits to the site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. He will not be required to make continuous on-site observations to check the quality or quantity of the Work. His efforts will be directed toward ascertaining on behalf of the OWNER that the completed Project will conform to the requirements of the Contract Documents. On the basis of his on-site observations as an experienced and qualified design professional, he will keep the OWNER informed of the progress of the Work and will endeavor to guard the OWNER against defects and deficiencies in the Work of contractors.

Clarifications and Interpretations:

9.3 The ENGINEER will issue with reasonable promptness such written clarification or interpretations of the Contract Documents (in the form of Drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the Contractor believes that a written clarification and interpretation entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefor as provided in Articles 11 and 12.

Measurement of Quantities:

9.4 All Work completed under the Contract will be measured by the ENGINEER according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

Rejecting Defective Work:

9.5 The ENGINEER will have authority to disapprove or reject Work which is "defective" (which term is hereinafter used to describe Work that is unsatisfactory, faulty or defective, or does not meet the requirements of any inspection, test or approval or has been damaged prior to final acceptance). He will also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.6 In connection with the ENGINEER'S responsibility as to Shop Drawings and samples, see paragraphs 6.22 through 6.27, inclusive.

9.7 In connection with the ENGINEER'S responsibility for Change Orders, see Articles 10, 11, and 12.

9.8 In connection with the ENGINEER'S responsibilities in respect of Application for Payment, etc., see Article 14.

Resident Project Representative:

9.9 The OWNER or the ENGINEER will provide on-site representation sufficient to guarantee

that construction is in general compliance with the construction drawings and the contract specifications.

Decisions on Disagreements:

9.10 The ENGINEER will be the initial interpreter of the terms and conditions of the Contract Documents and the judge of the performance thereunder. In his capacity as interpreter and judge, he will exercise his best efforts to insure faithful performance by both the OWNER and the CONTRACTOR. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work or the interpretation of or performance under the Contract Documents shall be referred initially to the ENGINEER for decision; which he shall render in writing within a reasonable time.

9.11 Either the OWNER or the CONTRACTOR, if the other agrees, may file a claim in a court with local jurisdiction with respect to any such claim, dispute or other matter that has been referred to the ENGINEER, except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.11, However, no request for a claim of any such claim, dispute or other matter shall be made until the earlier of (a) the date on which the ENGINEER has rendered his decision or (b) the tenth day after the parties have presented their evidence to the ENGINEER if he has not rendered his written decision before that date. No request for a claim shall be made later than thirty (30) days after the date on which the ENGINEER rendered his written decision in respect of the claim, dispute or other matter as to which arbitration is sought; and the failure to request a claim within said thirty (30) days period shall result in the ENGINEER'S decision being final and binding upon the OWNER and the CONTRACTOR. If the ENGINEER renders a decision after judicial proceedings have been initiated, such decision may be entered as evidence but shall not supersede the judicial proceedings, except where the decision is acceptable to the parties concerned.

Limitations on Engineer's Responsibilities:

9.12 Neither the ENGINEER'S authority to act under this Article 9 nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any of their agents or employees or any other person performing any of the Work.

9.13 The ENGINEER will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

9.14 The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other person performing any of the Work.

ARTICLE 10 - CHANGES IN THE WORK:

10.1 Without invalidating the Agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, the CONTRACTOR will proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12. A Change Order signed by the CONTRACTOR indicates his agreement therewith.

10.2 The ENGINEER may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the CONTRACTOR believes that any minor change or alteration authorized by the ENGINEER entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefor as provided in Articles 11 and 12.

10.3 Additional Work performed by the CONTRACTOR without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.21 and except as provided in paragraph 10.2.

10.4 The OWNER will execute appropriate Change Orders prepared by the ENGINEER covering changes in the Work to be performed as provided in paragraph 4.4, and Work performed in an emergency as provided in paragraph 6.21 and any other claim of the CONTRACTOR for a change in the Contract Time or the Contract Price which is approved by the ENGINEER.

10.5 It is the CONTRACTOR'S responsibility to notify his surety of any changes affecting the general scope of the Work or change in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. The CONTRACTOR will furnish proof of such adjustment to the OWNER.

ARTICLE 11 - CHANGE OF CONTRACT PRICE:

11.1 The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without changing the Contract Price.

11.2 (a) The OWNER may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the Work within the general scope of the contract, including but not limited to changes:

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Owner-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation or determination) from the OWNER, which causes any such change, shall be treated as a change order under this clause, provided that the CONTRACTOR gives the OWNER written notice stating the date, circumstances, and source of the order and that the CONTRACTOR regards the order as a change order.

(c) Except as herein provided, no order, statement, or conduct of the OWNER shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment hereunder.

(d) If any change under this clause causes an increase or decrease in the CONTRACTOR'S cost of, or the time required for, the performance of any part of the work under this contract, weather or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: PROVIDED, HOWEVER, that except for claims based on defective specifications, no claim for any change under (b) above shall be allowed for any costs incurred more than 20 days before the CONTRACTOR gives written notice as therein required. And provided further, that in the case of defective specifications for which the OWNER is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the CONTRACTOR in attempting to comply with such defective specifications.

(e) If the CONTRACTOR intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the OWNER a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the OWNER. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents by application of unit prices to the quantities of the items involved. Should the Work (by quantity) be increased or decreased by 15 per cent from that stipulated in the Contract Documents, the OWNER and the CONTRACTOR may request adjustment of the unit prices by negotiation. If negotiation fails to reach agreement, then either party may request arbitration for the volume in excess of the 15 per cent differential.

11.3.2 By negotiated lump sum.

11.3.3 The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise maybe agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to salaries and wages plus the costs of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays shall be included in the above to the extent authorized by OWNER.

11.4.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturers field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to him and shall deliver such Bids to OWNER who will then determine with the advice of ENGINEER, which Bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of Work Plus a Fee, the cost of the Work shall be determined in accordance with paragraphs 11.4 and 11.5.

11.4.4 Costs of special consultants (including but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work.

11.4.5 Supplemental costs including the following:

11.4.5.1 The proportion of necessary transportation, travelling and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the

workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or other in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the cost of transportation, loading, unloading, installation, dismantling and removal thereof--all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall end when the use thereof is no longer necessary for the Work.

11.4.5.4 Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable imposed by any governmental authority.

11.4.5.5 Deposits lost for causes other than CONTRACTOR'S negligence, royalty payments and fees for permits and licenses. Costs for permits and licenses must be shown as a separate item.

11.4.5.6 Losses, damages and expenses, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the execution of, and to, the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of Work for the purpose of determining CONTRACTOR'S fee. If however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9 Cost of premiums for additional Bonds and Insurance required because of changes in the Work.

11.5 The term cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals, (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the schedule referred to in subparagraph 11.4.1 -- all of which are to be considered administrative costs covered by the CONTRACTOR'S Fee.

11.5.2 Expenses of CONTRACTOR'S principal and branch offices other than his office at the site.

11.5.3 Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S

capital employed for the Work and charges against CONTRACTOR'S for delinquent payments.

11.5.4 Cost of premiums for all bonds and for all insurance policies whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as otherwise provide in subparagraph 11.4.5.9.)

11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR'S Fee which shall be allowed to CONTRACTOR for his overhead and profit shall be determined as follows;

11.6.1 A mutually acceptable firm fixed price; or if none can be agreed upon,

11.6.2. A mutually acceptable fixed fee based on the estimate of the various portions of the Cost of the Work.

11.7 The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost, will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.8 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will submit in form prescribed by ENGINEER an itemized cost breakdown together with supporting data.

11.9 Allowances: It is understood that the CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such materialmen, suppliers, or Subcontractors and for such sums within the limit of the allowances as the ENGINEER may approve. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The CONTRACTOR agrees that the original Contract Price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

11.9.1 These allowances shall cover the cost to the CONTRACTOR less any applicable trade discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes.

11.9.2. The CONTRACTOR'S costs for unloading and handling on site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Price and not in the allowance.

11.9.3 Whenever the cost, as described in 11.9.1 above, is more than or less than the allowance, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses, except that whenever unit price allowances are stipulated for brick, the Change Order will not include any cost as described in 11.5 above.

ARTICLE 12 - CHANGE OF THE CONTRACT TIME:

12.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to OWNER and ENGINEER within ten days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

12.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if he makes a claim therefor as provided in paragraph 12.1. Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by OWNER, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3 All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of the Article 12 shall not exclude recovery for damages (including compensation for additional professional services) for delay by either parties.

12.4 No claim for delay shall be allowed because of failure to furnish Drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

12.5 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

ARTICLE 13 - GUARANTY:

13.1 The CONTRACTOR shall guarantee all materials and equipment furnished and Work performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to

other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs or adjustments, in the Work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

ARTICLE 14 - PAYMENTS AND COMPLETION:

Payments to Contractors:

14.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within sixty (60) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER may retain a portion of the amount otherwise due the CONTRACTOR. Except as State law otherwise provides, the amount the OWNER retains shall be limited to the following:

14.1.1 Withholding of not more than 10 per cent of the payment claimed until work is 50 per cent complete;

14.1.2 When Work is 50 per cent complete, reduction of the withholding to 5 per cent of the dollar value of all Work satisfactorily completed to date, provided that the CONTRACTOR is making satisfactory progress and there is no specific cause for greater withholding;

14.1.3 When the Work is substantially complete (operational or beneficial occupancy), the withheld amount shall be further reduced below 5 per cent to only that amount necessary to assure completion.

14.1.4 The OWNER may reinstate up to 10 per cent withholding if the OWNER determines, at its discretion, that the CONTRACTOR is not making satisfactory progress or there is other specific cause for such withholding.

Contractor's Warranty of Title:

14.2 The CONTRACTOR warrants and guarantees that title to all work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the OWNER prior to the making of the Application for payment, free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens") and that no work, materials or equipment covered by an Application for Payment will have been acquired by the CONTRACTOR or by any other person performing the Work at the Site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.

Approval of Payments:

14.3 The ENGINEER'S approval of any payment requested in an Application for Payment shall constitute a representation by him to the OWNER, based on the ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the Application of Payment and the supporting data, that the Work has progressed to the point indicated; That, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval), and that the CONTRACTOR is entitled to payment of the amount approved. However, by approving any such payment, the ENGINEER shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences, and procedures of construction or that he has made any examination to ascertain how or for what purpose the CONTRACTOR has used the moneys paid or to be paid to him on account of the Contract Price, or that title to any Work, materials, or equipment has passed to the OWNER free and clear of any Liens.

14.4 The CONTRACTOR shall make the following certification on each request for payment:

"I hereby certify that the labor and materials listed on this request for payment has been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location; and payment received from the last request for payment has been used to make payments to all first tier subcontractors and suppliers except as listed below."

14.5 The ENGINEER'S approval of final payment shall constitute an additional representation by him to the OWNER that the conditions precedent to the CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.11 have been fulfilled.

14.6 The ENGINEER may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the OWNER. He may also refuse to approve any such

payment, because of subsequently discovered evidence or the results of subsequent inspections or tests nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the OWNER from loss because:

14.6.1 The Work is defective, or completed Work has been damaged requiring correction or replacement,

14.6.2 The Work for which payment is request cannot be verified,

14.6.3 Claims or Liens have been filed or there is reasonable evidence indicating the probable filing thereof,

14.6.4 The Contract Price has been reduced because of Modifications,

14.6.5 The OWNER has been required to correct defective Work or complete the Work in accordance with paragraph 13.1,

14.6.6. Of unsatisfactory prosecution of the Work, including failure to clean up as required by paragraphs 6.29 and 6.30,

14.6.7. Of persistent failure to cooperate with other contractors on the Project and persistent failure to carry out the Work in accordance with the Contract Documents,

14.6.8. Of liquidated damages payable by the CONTRACTOR or,

14.6.9. Of any other violation of, or failure to comply with, the provisions of the Contract Documents.

14.7 Prior to Substantial Completion, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the Work. Such use shall not constitute and acceptance of such portions of the Work.

14.8 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the Work, or restoration of any damaged Work, except such as may be caused by agents or employees of the OWNER.

14.9 Upon completion and acceptance of the Work, the ENGINEER shall issue a certificate attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (60) days of completion and acceptance of the Work.

14.10 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations

of nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the Contract Documents by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

Acceptance of Final Payment as Release:

14.11 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this Work and for every act and neglect of the OWNER and others relating to or arising out of this Work. Any payment however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION:

Owner May Suspend Work:

15.1 The OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the CONTRACTOR and the ENGINEER which shall fix the date on which Work shall be resumed. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if he makes a claim therefor as provided in Articles 11 and 12.

Work During Inclement Weather:

15.2 No Work shall be done under these Specifications except by permission of the OWNER when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the CONTRACTOR, upon the direction of the OWNER, shall suspend all work until instructed to resume operations by the OWNER and the Contract Time shall be extended to cover the duration of the order. Work damaged during periods of suspension due to inclement weather shall be repaired and/or replaced by the CONTRACTOR. Any compensation for repairs or replacements shall be subject to approval of the OWNER.

Owner May Terminate:

15.3 If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property; or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or he disregards laws, ordinances, rules regulations or orders of any public body having jurisdiction, or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the Contract Documents, then the OWNER may without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety seven days written notice, terminate the services of the CONTRACTOR and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the Work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR or the Surety will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a Change Order.

15.4 Where the CONTRACTOR'S services have been so terminated by the OWNER, said terminations shall not affect any rights of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys by the OWNER due the CONTRACTOR will not release the CONTRACTOR from liability.

15.5 Upon seven days written notice to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the CONTRACTOR shall be paid for all Work executed and any expense sustained plus a reasonable profit.

Removal of Equipment:

15.6 In the case of termination of this Contract before completion, for any cause whatever, the CONTRACTOR if notified to do so by the OWNER, shall promptly remove any part or all of his equipment and supplies from the property of the OWNER. Should the CONTRACTOR not remove such equipment and supplies, the OWNER shall have the right to remove them at the expense of the CONTRACTOR. Equipment and supplies shall not be construed to include such items for which the CONTRACTOR has been paid in whole or in part.

Contractor May Stop Work or Terminate:

15.7 If, through no act or fault of the CONTRACTOR, the Work is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any Application for Payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR any sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of its approval and presentation, then the

CONTRACTOR may, upon seven (7) days written notice to the OWNER and the ENGINEER, terminate the Agreement and recover from the OWNER payment for all Work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the Agreement, if the ENGINEER has failed to act on an Application for Payment or the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon seven (7) days notice to the OWNER and the ENGINEER stop the Work until he has been paid all amounts then due.

Owner Furnished Equipment:

15.8 In case the OWNER furnishes equipment to the CONTRACTOR to install, but fails to deliver it to the CONTRACTOR as required and in case such failure causes the CONTRACTOR additional expense or need for extension of time, the CONTRACTOR may make such claims upon the OWNER and obtain adjustments as provided herein.

Liquidated Damages:

15.9 If the CONTRACTOR shall fail to complete the work within the contract time, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the Contract Documents for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract Documents.

ARTICLE 16 - DISPUTE SETTLEMENT:

16.1 All claims, disputes and other matters in question arising out of, or relating to, this Agreement or the breach thereof except for claims which have been waived by the making or acceptance of final payment as provided by paragraph 14.11, shall be decided in a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS:

17.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

17.2 If the OWNER fails to make payment thirty (60) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such progress payment, interest at 1% per month commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

17.3 All Specifications, Drawings and copies thereof furnished by the ENGINEER shall remain his property. They shall not be used on another Project, and, with the exception of those sets which have been signed in connection with the execution of the Agreement, shall be returned to him on request upon completion of the Project.

17.4 The duties and obligations imposed by these General Conditions, and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.36 and 14.3 and the rights and remedies available to OWNER and ENGINEER thereunder, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available by law, by special guarantee or by other provisions of the CONTRACT DOCUMENTS.

17.5 Should the OWNER or the CONTRACTOR suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employee or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

17.6 The CONTRACT DOCUMENTS shall be governed by the law of the place of the Project.

Progress Charts and Requirements for Overtime Work

17.7 The CONTRACTOR shall within 5 days or within such time as determined by the OWNER after date of commencement of work prepare and submit to the OWNER for approval a practicable schedule, showing the order in which the CONTRACTOR proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plans and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The CONTRACTOR shall enter on the chart the actual progress at such intervals as directed by the OWNER and shall immediately deliver to the OWNER three (3) copies thereof. If the CONTRACTOR fails to submit a progress schedule within the time herein prescribed, the owner may withhold approval of progress payment estimates until such time as the CONTRACTOR submits the required progress schedule.

If, in the opinion of the OWNER, the CONTRACTOR falls behind the progress schedule, the CONTRACTOR shall take such steps as may be necessary to improve his progress and the OWNER may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or update the progress schedule to reflect increased production for meeting the completion date, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the OWNER.

Failure of the CONTRACTOR to comply with the requirements of the OWNER under this provision shall be grounds for determination by the OWNER that the CONTRACTOR is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such

determination the OWNER may terminate the CONTRACTOR'S right to proceed with the work or any separable part thereof in accordance with the clause of the contract entitled, "Termination for Default-Damages for Delay - Time Extensions.

Should the Contractor fail to complete the work within the specified time, or within any extra time allowed under these specifications, a sum of money, determined by the following schedule, shall be deducted from any funds due the Contractor, the Owner shall have the right recover the said sum or sums from the Contractor or from the surety, or from both. The amounts of these deductions are to cover the liquidated damages to the Owner incurred by additional or other expenses due to the failure of the Contractor to complete the work or any part of the work within the time specified, and such deductions are not to be considered penalties.

The damages indicated above shall be considered as liquidated damages for the loss to the Owner on account of the expense due to the employment of Engineers and their assistants and to any others expenses incurred after the expiration of the Contract time as determined by the Engineer.

MEASUREMENT AND PAYMENT

Measurement and payment for the following bid items shall be as described and shall include all material equipment, labor and testing to install and make operational a complete sewer system as detailed on the contract drawings and in these specifications.

FORCE MAIN

Payment for force main will include all labor equipment and materials to install force main as denoted on the construction plans and/or in the specifications. The item shall include all pipe fittings, trenching, bedding, marking tape, tracer wire, back fill, compaction and other items necessary to produce a functioning force main. Item shall be paid per installed and accepted linear foot.

SEWER MAIN (SDR-26), HDPE, OR OTHER

Payment for all sewer mains will be per linear foot for various diameter pipe measured from centerline of manhole to centerline of manhole in relation to the diameter of the pipe and the depth of cut as shown in the individual bid items.

STEEL CASING

Payment for steel casing will be per linear foot measured from end to end of casing along the centerline of pipe. Diameter and thickness shall be as noted in the plans and specifications. Bored or Open cut casing pipe shall include labor, equipment and materials to install bore at depth as shown on plans.

AIR RELEASE VALVE

The item shall include an air release valve with concrete manhole enclosure as required by the plans and specifications. The item shall be paid per each.

CONCRETE ENCASEMENT FOR SEWER LINE

Payment for concrete encasement for sewer line shall include furnishing and installing concrete to encase a proposed sanitary sewer line. Item shall include forming, material, haul, placement, compaction and testing necessary to meet the plans and specifications. Payment shall be per linear foot measured along the length of the sewer pipe and end of concrete. The item shall be paid per linear foot.

REMOVAL OF SEWER PIPE THROUGH EXISTING BOX CULVERT

Payment for removal of sewer pipe through existing box culvert shall be as indicated on the construction plans. The item shall include all labor, materials and equipment necessary to complete the item including proper patching of voids in the box culvert. The item shall be paid per linear foot.

MANHOLES

Payment for manholes will be per each and depth of manhole in appropriate depth bracket measured from lid of manhole to downstream invert. Depth shall be based on individual bid items.

DROP MANHOLE CONNECTION

Payment for drop manhole connection shall include furnishing and installing all hardware required to assemble a drop as detailed in the plans and specifications. Payment shall be per each.

DEMOLITION AND REMOVAL OF EXISTING MANHOLES

Payment for demolition and mobilization of existing manholes shall be as indicated on the construction plans. The item shall include the total removal of the manhole assembly and removal and disposal off site. The item shall include all disposal and transportation costs. The item shall be paid per each.

LIFT STATION

Item shall include all necessary labor, materials and equipment necessary to provide a functioning lift station based on the plans and specifications. The item shall include but not limited to clearing and grubbing, borrow material, crushed aggregate, concrete wet well, pumps, electrical, disconnect, valve pit, gages, service pole, meter box, lifting chain, guide rail, chain link fence with gates and other misc. equipment as required by the plans. The item shall be lump sum and paid as a percentage complete based on the engineer's determination at the time of the estimate.

SEWER SERVICE TEE

Payment for sewer service tee will be per each at the bid size. Price shall include all labor, materials and equipment necessary to install sewer service tee based on plans and specifications.

SANITARY SEWER SERVICE TAP

Payment for sanitary sewer service tap will be per each at the bid size. Price shall include all labor, materials and equipment necessary to install sanitary sewer service tap based on plans and specifications.

PVC SEWER SERVICE LINE

Payment for sewer service will be per linear foot for various diameter pipe measured from end of sewer tee to the fitting on the cleanout to the nearest whole foot. Item shall include all labor, equipment and materials necessary to install all equipment.

SEWER CLEANOUT

Payment for sewer cleanout will be per each to include all labor, materials and equipment at the bid size. Price shall reflect depth as necessary to provide sanitary sewer service to project area.

REMOVAL OF EXISTING SEPTIC TANK

Payment for abandonment septic tank shall be as indicated on the construction plans. The item shall include the removal of the septic tank lid and proper disposal of all components from the removal process. Necessary backfill required for the void shall be included in the item. Item shall include any necessary reconnection fittings or pipe to make the facility a fully functioning sanitary sewer service. The item shall include all labor, equipment and materials necessary for removal of existing septic tank. Bypass pumping shall be an absorbed portion of this item should it be necessary for the installation. The item shall be paid per each.

WATER SERVICE REPAIR

Payment for water service repair shall include all fittings, tubing, curb stop, corporation stop, tapping saddle and misc materials, labor and equipment to repair existing water services in conflict with construction or as directed by the engineer. Item shall be paid per each.

CRUSHED AGGREGATE

Payment for crushed aggregate shall include furnishing and installing material as specified in the plans and specifications. Crushed aggregate shall be installed as a base material for the pavement repairs. Crushed aggregate may be used for a temporary riding surface. Temporary riding surface will be removed prior to pavement repairs and moved to another location as directed by the engineer at no additional cost to the project. Payment shall be per ton from certified scales.

SELECT FILL MATERIAL

Payment for select fill material will be based on loose vehicular measurement. Haul vehicles shall be measured and volumes calculated. It shall be the discretion of owner as to the overall percentage full of haul material. Item shall include material, haul, placement and testing necessary to meet the plans and specifications.

CONCRETE SIDEWALK REPAIR

Payment for concrete sidewalk repair shall include furnishing and installing sidewalk to match removed concrete sidewalk. Item shall include forming, material, haul, placement, compaction and testing necessary to meet the plans and specifications. Item shall not be used for damage to sidewalk as a result of poor construction methods or neglect from the contractor. Payment shall be per square yard measured at the back of the curb.

CONCRETE PAVEMENT REPAIR

Payment for concrete pavement repair shall include furnishing and installing concrete pavement as specified in the plans and specifications. Item shall include forming, material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per square yard.

ASPHALT PAVEMENT REPAIR

Payment for Hot Mix Asphalt shall include furnishing and installing asphalt pavement as specified in the plans and specifications. Item shall include material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per square yard.

GROUTED RIPRAP

Payment for grouted rip rap shall include furnishing and installing filter fabric, grading, rock, grout, etc. as required by the plans and specifications. Item shall include all materials, labor and equipment. Payment shall be made by square yard based on the amount of material in place. Square yardage shall not include toe walls which will be included in the total project amount.

REMOVE AND RESET RIPRAP

Payment for removal and reset of grouted rip rap shall include furnishing and installing filter fabric, grading, additional rip rap, grout, etc. as required by the plans and specifications. Item shall include all materials, labor and equipment. Payment shall be made by square yard based on the amount of material in place. Square yardage shall not include toe walls which will be included in the total project amount.

REMOVAL OF EXISTING STEEL CASING

Payment for removal of existing steel casing shall be as indicated on the construction plans. The item shall include all labor, materials and equipment necessary to complete the removal item including proper disposal of steel casing. The item shall be paid per linear foot.

REMOVE AND REPLACE FENCE

Payment for removal of fence shall be per linear foot as measured along the existing fence prior to removal. Item shall include but not be limited to all labor, equipment, supplies and materials necessary to completely remove various types of existing fence, posts and concrete base if present, gates, wire and other hardware, and replace with a similar fence with similar components to match existing components as specified in the plans and specifications.

CONCRETE

Payment for concrete shall include furnishing and installing concrete with specified class as specified in the plans and specifications. Item shall include forming, material, haul, placement compaction and testing necessary to meet the plans and specifications. Item shall include reinforcing steel, grates, etc. as necessary and required. Payment shall be per cubic yard.

REMOVAL OF STORM SEWER PIPE

Payment for removal of storm sewer pipe shall be as indicated on the construction plans. The item shall include the total removal of cross drain and side drain pipe and removal and disposal off site. The item shall include all disposal and transportation costs. The item shall be paid per linear foot.

REINFORCED CONCRETE PIPE (R.C.P)

Payment for all drainage pipe will be per linear foot for various diameter pipe measured from end of pipe to end of pipe installed in relation to the diameter of the pipe.

CORRUGATED PLASTIC PIPE

Payment for corrugated plastic pipe shall be per linear foot as measured along the constructed pipe. Item shall include but not be limited to all labor, equipment, supplies and materials necessary to furnish, construct and install pipe, fittings, bedding, as specified in the plans and specifications.

CLEARING AND GRUBBING

Payment for clearing and grubbing shall include removal of all items within the required limits of construction necessary to complete the project based on the construction plans and specifications. Payment shall include off site removal of all items removed during clearing and grubbing. Item shall include all materials, labor and equipment necessary to meet the plans and specifications. Payment

shall be lump sum.

GRASSING

Payment for grassing work shall include furnishing and installing seeding, fertilizer, lime and other components required to establish permanent grassing. Grassing shall include final grading prior to installation of seeding materials. The unit measurement shall be lump sum and based on the percentage of area completed in full to date at time of estimate.

EROSION CONTROL

Payment for Erosion Control shall include furnishing, installing and maintaining wattles, silt fence or other measures as required by current Mississippi Department of Environmental Quality standards. Wattles and silt fence shall be installed and maintained to prevent erosion under or excess siltation within 24 hours of a rain event. The unit measurement shall be Lump Sum and shall include any required maintenance.

MOBILIZATION

Payment for mobilization shall enable contractor to assemble materials, equipment, etc. on site, to prepare for construction. The unit measurement shall be lump sum. Mobilization shall be paid 50 percent at 5 percent of construction complete and 100 percent at 25 percent of construction complete.

MAINTENANCE OF TRAFFIC

Payment for maintenance of traffic will be lump sum. Item shall include all materials, labor and equipment to maintain traffic based on the current MUTCD or as required by the engineer.

TECHNICAL SPECIFICATIONS

SANITARY SEWERAGE SYSTEMS

1.0 GENERAL

This item shall consist of furnishing all of the necessary materials, supervision, labor, tools, equipment and incidentals, and the installation of various types and sizes of sewer pipe and related items in accordance with the Contract Drawings and Specifications, as stated in the Proposal.

2.0 APPLICABLE PUBLICATIONS

The following publications form a part of this Specifications and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- A 139/139M Electric-Fusion (Arc) Welded Steel Pipe (HPS 4 inch and over).
- A 252 Welded and Seamless Steel Pipe Piles.
- C 31/C 31M Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field.
- C 33 Specifications for Concrete Aggregate
- C 39/C 39M Compressive Strength of Cylindrical Concrete Specimens.
- D 1248 Polyethylene Plastics Extrusion Materials for Wire and Cable
- D 1784 Rigid Poly(Vinyl Chloride)(PVC) Compounds and Chlorinated Poly (Vinyl Chloride)(CPVC) Compounds.
- D 2412 Determination of External Loading Characteristics of Plastic Pipe by Parallel Plate Loading.
- D 2922 Density of Soil and Soil Aggregate in place by Nuclear Methods (Shallow Depths).
- D 3034 Specifications for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
- D 3212 Joints for Drain and Sewer Plastic Pipes using Flexible Elastomeric Seals.
- F 477 Specifications for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

F 794 Poly (Vinyl Chloride)(PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

A21.10 Ductile Iron Fittings, 3 inch through 48 inch for Water and other Liquids.

A21.11 Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.

A21.50 Ductile Iron Pipe, Design Requirements

A21.51 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-lined Molds, for Water or other Liquids.

AMERICAN WATER WORKS ASSOCIATION (AWWA)

C 104 Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water and Other Liquids.

C 106 Cast Iron Pipe Centrifugally Cast in Metal Molds, for water and other Liquids.

C 110 Ductile Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids.

C 111 Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.

C 151 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or other Liquids.

AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO)

T-88 Particle Size Analysis of Soils.

T-89 Determining the Liquid Limit of Soils.

T-90 Determining the Plastic Limit and Plasticity Index of Soils.

T-99 Moisture Density Relations of Soils Using a 5.5 lb. Rammer and 12 inch Drop.

T-191 Density of Soil In-Place by the Sand-Cone Method.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Standard Specifications for Road and Bridge Construction Current Edition.

3.0 SUBMITTALS

The following submittals shall be required for the respective materials used in the work. All submittals shall be submitted through the Contractor to the Engineer.

3.1 Ductile Iron Pipe: The following submittals shall be required for ductile iron pipe systems utilized on the project. The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements as specified hereinafter under Article 4.0, Materials. In addition, the submittals shall include the following:

A. Joints: The following shall be required for ductile iron joints.

1. Drawings or Manufacturer's Catalogue data indicating dimensions and tolerance.
2. Gaskets shall be tested in accordance with the respective standards as indicated in ANSI 21.11 and results shall be included in the submittals. Test shall be for similar materials on the gaskets and be not more than one year old.
3. Mechanical Joints: Should the Contractor elect to use mechanical joints in lieu of push-on joints, manufacturer's data shall be submitted in accordance with the "Special Requirements for the Mechanical Joint" as stated in ANSI 21.11 (AWWA C 111).

B. Ductile Iron Pipe Submittal Shall Include the Results of:

1. Tension Test
2. Impact Test
3. Low Temperature Impact Test

Sampling procedure shall be as indicated in ANSI 21.51.

3.2 PVC Pipe: The Contractor shall submit manufacturer's certificate certifying that the pipe and fittings conform to the requirements as specified hereinafter under Article 4.0, Materials. In addition, the Contractor shall submit the following:

A. PVC Piping: PVC Pipe shall be sampled, tested, and inspected in accordance with the provisions of ASTM D3034. Copies of test results shall be attached. Test results shall be similar material and not be more than one year old from the date of material delivery.

B. Joints: The following submittals shall be required for PVC joints.

1. Certificate with test results for joints for compliance to ASTM D 3212. Gaskets shall conform to ASTM F 477. Test results shall be for similar material and not be more than one year old.

4.0 MATERIALS

4.1 Gravity Sewer Pipe: Where the type of gravity sewer piping is not indicated on the

plans, the Contractor shall furnish polyvinyl chloride (PVC) pipe.

The Contractor shall be restricted to furnishing the exact type of pipe material where indicated on the Contract Drawings.

The Contractor shall be limited to the use of only one type of pipe (so selected by the Contractor and indicated on the Proposal Form) and shall not change the type of gravity sewer pipe except as follows:

1. Where indicated on the plans, or
2. If permitted in writing by the Engineer.

A. Ductile Iron Pipe: Ductile iron shall be designed in accordance with the latest revision of ANSI/AWWA C150/A21.50 for a minimum 50psi.

Ductile Iron Pipe shall be manufactured in accordance with the latest revision of ANSI/AWWA C151/A21.51. Each pipe shall be subjected to a hydrostatic pressure test of at least 500 psi at the point of manufacture.

Pipe shall be standard asphaltic coating on the exterior. Pipe shall also have a Protecto 401 lining on the interior.

The class or nominal thickness, net weight without lining, and casting period shall be clearly marked on each length of pipe. Additionally, the manufacturer's mark, country where cast, year in which the pipe was produced, and the letters "DI" or "Ductile" shall be cast or stamped on the pipe.

All pipe shall be furnished with Push-On Type Joints, such as Tyton or Fastite. Joints shall be in accordance with ANSI/AWWA C111/A21.11, of latest revision, and be furnished complete with all necessary accessories.

Fittings shall be ductile iron. Fittings shall conform to the latest revision of either ANSI/AWWA C600.

B. PVC Pipe: PVC gravity sewer pipe and fittings shall conform to the requirements of ASTM D 3034 with an SDR of 26 and a minimum stiffness of 46 lb./in. - in and 115 lb./in. - in, respectively. Joints for sewer pipe shall be either push-up or mechanical conforming to the requirements of ASTM 3212. Gaskets for sewer pipe shall conform to the requirements of ASTM F 477.

Approved adaptors shall be used for making connections between PVC pipe and concrete manholes.

C. Service Laterals: Service laterals for local services shall consist of fittings, pipe lengths, and connections of 6 inch or 4 inch pipe. The fittings, pipe lengths and plugs shall be of

the same material as the run pipe unless otherwise indicated on the Contract Drawings. The modified sewer tees shall be an integral part of the run pipe. The remainder of the branch shall consist of standard fittings (elbows, reducers, and lengths of pipe) in accordance with the manufacturer's standard products and as specified. Pipe lengths and joint connections shall meet the specified requirements for the type materials used.

All service lines shall extend a maximum of up to 5 feet from house fronts of residences and public buildings and up to the property lines of businesses.

4.2 Casing Pipe: Steel pipe utilized as casing at locations shown on the Contract Drawings shall be new round piling pipe conforming to the requirements of ASTM A 252 or A 139. Casing diameter shall be adequate to allow pushing of the specified diameter of sewer pipe or force main and make proper connections at the ends. Minimum Wall Thickness for steel casing is 0.25 inch. (Hwy) and 0.28 inch (RR).

4.3 Wash Gravel Bedding Material: Select Granular material for pipe bedding shall be coarse concrete aggregate. The coarse concrete aggregate shall conform to the gradation sizing Number 467 specified in Table 2 of ASTM Standard Specification C-33. (See Following Table:)

SIZE NO. 467

<u>Nominal Size</u> <u>(Sieves w/Square Openings)</u>	<u>Percent Passing by Weight</u>
2"	100
1 - 1/2"	95 - 100
3/4"	35 - 70
3/8"	10 - 30
No. 4	0 - 5

4.4 Stabilization Material: Stabilization Material shall be a pit run mixture of sand and gravel. The sand shall be hard, sharp and durable particles. All gravel shall pass a 1 - 1/2" sieve.

4.5 Clay Gravel Material: Clay Gravel Material shall meet MDOT Standards Class 6, Group C.

4.6 Concrete: Concrete shall be in accordance with the requirements of Technical Specifications - CONCRETE

4.7 Select Backfill: General : The select material shall be composed of a natural or artificial mixture of sand, silt, clay or soil binder or other material of satisfactory cementing value. The sand shall be hard, sharp, and durable particles, preferably siliceous. The binder shall be a grade

of clay or other material having satisfactory cementing qualities and shall be homogenous in character, free from vegetable matter, clay balls or other deleterious substances that cannot be classed as serviceable base material.

A. Gradation: Any coarse aggregate contained in the material shall pass the one and one-half (1-1/2), sieve and not more than thirty-five percent (35%) shall be retained in the Number 10 sieve. The plasticity index (P.I.) shall not exceed 12, nor shall the liquid limit exceed 30.

The composite selected sand-clay material passing the Number 10 sieve shall conform to the following minimum and maximum gradation limits:

<u>Sieve</u>	<u>Percent Passing by Weight</u>
Number 40	40 - 85
Number 60	30 - 70
Number 270	8 - 30
Silt (.05 to .005 mm)	3 - 15
Clay (Passing .005 mm)	3 - 15

4.8 Backfill: All other backfill shall consist of excavated material removed from the trench unless otherwise directed by the Engineer. CONTRACTOR shall separate poor and acceptable material during excavation. Failure to separate material shall require CONTRACTOR to furnish acceptable backfill at no additional cost to the project.

5.0 CONSTRUCTION:

5.1 Earthwork:

A. Site Preparation: Topsoil shall be stripped and stockpiled in accordance with Technical Specifications - Restoration of Roads, Driveways, Fences, Lawns, and other Grassed Areas.

All vegetation such as brush, heavy sod, heavy growth of grass, decayed vegetative matter, rubbish and any other unsuitable material within the area of trenching shall be stripped or otherwise removed before the trenching is started, and in no case shall such objectionable material be allowed in the trench.

Stripping operation shall be to a depth of not less than 6 inches in all cases.

B. Asphalt or Concrete Removal: Before trenching operations begin, the existing asphalt or concrete pavement shall be scored or cut to a proper depth to give a straight vertical edge when removed. The asphalt or concrete shall be disposed of offsite by the Contractor. While removing the asphalt or concrete in the trench line, never shall the adjacent asphalt be raised or pulled from its base.

C. Trenching: The Contractor shall determine all requirements for trench dimensions,

alignment, and grades. The trench shall be excavated in conformance with all federal, state and local regulations for the protection of the workmen. Shoring, sheeting and/or a moveable form shall be used as required to provide earth stability during the laying operations.

The final excavation of the trench for the pipe installation shall be as indicated on the Plans. Minor variations in horizontal (within the permanent easement) or vertical alignment during construction shall be made during construction (with the Engineer's approval) to facilitate ease of installation and operation (due to potential conflicts; i.e., utility conflict) at no additional cost to the Owner except for additional piping, if any. The trench from the top of the pipe down to the bottom of the bedding shall be of a consistent width as indicated on the plans. Should the excavated width of the trench be larger than the design width, the Engineer may direct that a higher type or class of bedding be used; or other adjustments be made to increase the load carrying capacity of the pipe.

The Contractor shall not excavate more trench in advance of pipe laying than is necessary to perform the work efficiently. No more than 100 feet of open trench shall be allowed unless approved by the Engineer.

Excavated material shall be placed in a manner that will not obstruct sidewalks, driveways, or other structures. Excavated material shall not be placed so as to surcharge the walls and jeopardize trench stability.

If adequate area is not available on the construction site, the CONTRACTOR will be required to stockpile material off site. Owner shall not bear any additional expense.

Ledge Rock, boulders and large stones shall be removed to provide a minimum clearance of 4 inches (10 cm) below and on each side of all pipes.

D. Disposal: The Contractor shall satisfactorily dispose of all excess earth from excavations either in approved (by the Engineer) areas within the construction limits or away from the project in disposal sites obtained by the Contractor.

The Contractor will be permitted to mound excess earth over the trench to a maximum depth of 12 inches above the original ground surface or finished grade where the trench is located in unimproved property. Wasting of excess excavated material will not be permitted within any road ROW. All material within the construction limits shall be placed so that natural drainage is maintained and the surface shall be graded to a smooth and uniform appearance. The disposal of waste and excess excavating materials, including hauling, handling, grading, and surfacing shall be subsidiary obligation of the contractor and no separate payment will be made. Therefore, the cost of such work shall be included in the Contract Unit Price for installation of sewer pipe.

E. Dewatering: The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches and dikes and shall perform all pumping and other work necessary to divert or remove rainfall and other accumulations of surface water from the excavations. The

diversion and removal of surface water shall be performed in a manner that will prevent the accumulation of water behind temporary structures or at any other locations within the construction area where it may be detrimental. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hoses, piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least one foot below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of one foot below the lowest excavation subgrade made until the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures.

Where groundwater is encountered, the Contractor shall make the effort necessary to secure a dry trench bottom before laying pipe. In sandy and in other suitable type soils, dewatering shall be done by well pointing. If, in the opinion of the Engineer, the Contractor has failed to obtain an absolutely dry trench bottom by insufficient use of all known methods of trench dewatering, the Engineer may order the Contractor to excavate below grade and place not less than 6 inches of graded crushed stone fill material over the trench bottom to form trench drains to suitably located sumps and to remove the water by bailing or pumping. The graded crushed stone fill material shall be placed at the Contractor's own expense and shall be of such depth that there shall be not water in bell holes at the time of coupling pipe. All costs of equipment, labor, and materials required for dewatering shall be included in the pipe laying operation.

F. Bedding: The Contractor shall satisfactorily shape the trench area (to specified line, grade and cross section) to receive bedding material. The bottom of the trench shall be undisturbed soil. Should the Contractor over excavate the trench without direction from the Engineer, the trench shall be brought up to grade with select backfill and compacted to at least 90% of maximum laboratory density as measured by AASHTO T 99. Such additional work and materials for over excavation without direction of the Engineer shall be at the expense of the Contractor.

Holes for the bells shall be provided at each joint in the subgrade or in the granular fill bedding material as required. The holes shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the material. The Contractor shall install the proper bedding for the respective type of pipe and depth of installation as shown in the details and schedules on the plans. When depths vary in a particular manhole run, the Contractor shall change bedding systems in accordance with the depth installation requirements.

1. Stabilization Materials: When the subgrade is found to be unstable or to include ashes, refuse, organic material, or other unsuitable material, the Engineer may direct that the subgrade be over excavated to remove such material. The depths of over excavation shall be as directed by the Engineer. Stabilization material shall be placed into the over excavated area of the trench and shall be paid for in accordance with these specifications. Stabilization shall be compacted to at least 90% of maximum laboratory density in six inch lifts.

2. Bedding Materials: As detailed in the plans, bedding material shall be placed to the

specified depth below the pipe and tamped to a minimum of 90% of maximum laboratory density as determined in accordance with AASHTO T 99. Following placement of pipe, additional bedding material shall be placed and consolidated under the haunches of the pipe. Special tools shall be required to work the material into place and leave no voids beneath the pipe. The bedding material shall be tamped along the spring line (or along the top of the bedding material as indicated) of the pipe to sufficiently compact the material insofar as practical.

The Engineer may direct additional moisture be added to the bedding material to aid in the compaction effort. Mechanical tampers may be employed to aid the process. Depending on the particular bedding required, additional bedding shall be added and tamped to a minimum of 90% of maximum laboratory density, with AASHTO T-99.

3. Select Backfill: Select backfill shall be placed in 6 inch lifts and tamped to a minimum laboratory density with AASHTO T-99. Overall depth of the select backfill shall be as directed by the Engineer.

4. Normal Condition Bedding: Under normal conditions the trench bottom shall be undisturbed earth shaped to the specified line, grad, and cross section with proper bell holes at each joint to insure that pipe barrel lies flat on trench bottom. The bedding material will be selected native materials excavated from the trench and placed in two lifts. The first lift being placed up to the spring line of the pipe and extending out to the trench walls and hand tamped to a minimum of 90% of maximum laboratory density. Special care shall be used in placing and tamping bedding to insure no voids under the haunches of the pipe. The second lift shall extend to approximately 6" above pipe (Material permitting) and hand tamped to 90% density.

5. Backfilling: Upon completion of placement of select material the excavated materials shall be immediately placed back into the trench. Specific requirements are:

- a. Backfill requirements for road crossings, parking lots, driveways, and sidewalks shall be in accordance with Technical Specifications - RESTORATION OF ROADS, DRIVEWAYS, FENCES, LAWNS, AND OTHER GRASSED AREAS.
- b. Backfill requirements for unimproved areas (pastures, wooded areas) shall consist of placement and shaping of the soil in such a manner as to allow maximum natural consolidation. No compaction of the general backfill in the unimproved areas will be required, except that caused by conventional shaping equipment.
- c. No debris shall be used as backfill which has a volume in excess of one-half of one cubic foot or a weight excess of 75 pounds.

6. Sheeting Removal: Wooden sheeting or other thick sheeting or shoring members which have been driven or otherwise placed along the trench walls to an elevation below the spring line of the pipe shall be cut off at the spring line or higher and left in place.

7. Grading and Grassing: Final grading and grassing shall be in accordance with

Technical Specifications - RESTORATION OF ROADS, DRIVEWAYS, FENCES, LAWNS,
AND OTHER GRASSED AREAS.

5.2 PIPE HANDLING AND STORAGE: Pipe shall be handled, staked, and stored in accordance with manufacturer's printed literature. The Contractor shall provide security as required to prevent damage by vandals. PVC pipe shall be shaded from sunlight for extended lengths of time. Pipe damaged during storage and handling shall be rejected.

5.3 PIPE LAYING: Pipe laying shall proceed upgrade with the spigot ends of the bell-and-spigot pipe and tongue ends of the tongue and groove pipe jointing in the direction of flow. Each pipe shall be laid true to line and grade and in such a manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the sewer shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. Trenches shall be kept free of water and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At times when work is not in progress, open ends of pipe and fittings shall be securely and satisfactorily closed so that no trench water, earth, or other substance will enter the pipe or fittings.

Pipe laying shall be performed in such a manner that no foreign material enters the pipe. The Engineer may require that before lowering pipe, heavy canvas bags be placed over each end, and left in place until joints are ready to be made. If water is in the trench, the seals shall remain in place until the trench is pumped completely dry. If conditions are unsuitable, no pipe shall be laid until satisfactory laying conditions are obtained in accordance with the above specified requirements.

The Contractor shall utilize a commercial grade laser beam specifically manufactured to aid in maintaining grade and alignment of pipelines during installation. The primary unit shall be mounted on a heavy duty base and firmly anchored in the downstream manhole of the reach under construction. The maximum distance shall not exceed four hundred feet (400') per set-up.

Each joint of pipe shall be installed using an approved target to align the pipe with the projected laser beam. The methods and procedures shall be in strict accord with the manufacturer's recommendations and instructions. Proper ventilation shall be maintained at all times. Care shall be exercised in order to prevent bumping or misalignment of the projected beam. Sewer lines shall be laid such that the installed variation of invert elevations when compared with the construction plans does not exceed 0.05 feet. Sewer lines in which said variation exceeds 0.05 feet may be rejected. Sewer pipe shall be visually inspected for alignment by lamping, televising or by other appropriate means to determine alignment.

Whenever a movable steel box is used in place of sheeting, the Contractor shall take care to prevent the pipe from moving when the steel box is moved.

5.4 PIPE JOINTING: Piping shall be jointed in accordance with the manufacturer's printed recommendations. Gaskets shall be firmly set within the bells and grooves as required. The manufacturer's recommended lubricant or an approved equal shall be applied for slip type joints.

A. PVC Pipe Joint Construction: The bell and spigot ends of PVC sewer pipe shall be cleaned of all foreign material that could interfere with proper assembly of the joints. The spigot ends shall be cleaned one inch (1") beyond the joint assembly reference mark.

The spigot end of the pipe shall be thoroughly lubricated in accordance with the manufacturer's recommendations. The coating should be the equivalent of a brush coat of enamel paint and maybe applied by hand, cloth, pad sponge or glove.

The lubricated spigot end shall be inserted into the bell keeping the pipe length in proper alignment. The bell shall be braced while the spigot end is pushed in under the rubber ring, so that previously competed joints in the line will not be closed up. The spigot end shall be pushed into the bell until the reference mark is flush with the end of the bell.

Generally, the installation and jointing of PVC Pipe shall conform to the requirement so the latest edition of ASTM D-2321, "Underground Installation of Flexible Thermoplastic Sewer Pipe".

B. Ductile Iron Pipe Joint Construction: The installation and jointing of ductile iron pipe and shall generally conform to the applicable provisions of AWWA Standard Specifications C-600 for pipe laying.

Where mechanical joint pipe is used, the surfaces which come in contact with the gasket shall be thoroughly brushed with a wire brush just prior to assembly. The gasket should be brushed with soapy water prior to installation to remove loose dirt and to lubricate gasket as it is forced into its retaining space.

When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly. The bolts should be partially tightened; the bottom bolt first, then the top; next the bolts on either side; and last, the remaining bolts. Overstressing of bolts to compensate for poor installation will not be permitted. Bolt torque shall be in accordance with manufacturer's specifications.

All joints of whatever type shall be completely water tight after being subjected to the required tests.

C. Joining Dissimilar Pipes: Suitable adaptor couplings are required for connecting dissimilar pipes. The couplings shall be approved by the Engineer before installation.

5.5 STREAM CROSSING: Ductile iron pipe Class 50 shall be used as shown on the Drawings. Granular fill, concrete, and concrete collars shall be placed or constructed as shown on

the contract drawings.

5.6 SERVICE LATERALS (LINES): Modified sewer tees shall be installed on the run pipe at the appropriate field locations. Service lines of the sizes specified shall be laid to a uniform grade so that the customer being served can be tied-in using good construction practices. All tamping and backfilling operations shall be performed the same as on main line pipe. Removable plugs shall be securely installed in pipe ends and a 2" x 2" treated post extending 12" above the ground line shall mark the pipe end location.

5.7 BORINGS: Borings shall be accomplished in accordance with Mississippi State Highway Department or Railway Standards. The contractor shall provide all necessary sheeting, bracing, cribbing, supports and appurtenances to insure the proper line and grade throughout the entire length of the crossing.

A. Casing Pipe: Casing Pipe shall be installed as indicated on the Contract Drawings. Joints shall be completely welded to provide structural integrity and shall be water tight.

B. Carrier Pipe: Carrier pipe may be any of the allowed options of piping. However, the piping and joints shall be capable of withstanding the stress exerted by pushing the pipe within the casing.

C. Carrier Pipe Supports: Supports for the carrier pipe shall be as recommended by the manufacturer for such installation. Supports shall be spaced to adequately support the piping under surcharged sewage conditions.

D. Casing Seal: The annulus between the casing and carrier pipe shall be sealed at each end with a quick setting grout.

5.8 RELATION TO WATER MAINS:

A. Horizontal Separation: Whenever possible, sewers should be laid at least 10 feet, horizontally, from any existing or proposed water main. Should local conditions prevent a lateral separation of 10 feet, a sewer may be laid closer than 10 feet to a water main if:

1. It is laid in a separate trench.
2. It is laid in the same trench with the water mains located at one side on a bench of undisturbed earth.
3. In either case the elevation of the crown of the sewer is at least 18 inches below the invert of the water main.

B. Vertical Separation: Whenever sewers must cross under water mains, the sewer shall be laid at such an elevation that the top of the sewer is at least 18 inches below the bottom of the

water main. When the elevation of the sewer cannot be buried to meet the above requirement, the water main shall be relocated to provide this separation or reconstructed with slip-on or mechanical-joint ductile iron pipe, or prestressed concrete cylinder pipe for a distance of 10 feet on each side of the sewer. One full length of water main should be centered over the sewer so that both joints will be as far from the sewer as possible.

C. Special Conditions: When it is impossible to obtain proper horizontal and vertical separation as stipulated above, the water main should be constructed of slip-on or mechanical-joint ductile iron pipe, or prestressed concrete cylinder pipe and the sewer constructed of mechanical-joint ductile iron pipe and both services should be pressure tested to assure water tightness.

5.9 CONTINUATION OF SERVICE

The existing wastewater system shall remain in operation during the duration of the project. Should removal of facilities from operation become necessary, a plan which will avoid or minimize pollution effects on any receiving stream and provide alternate service for wastewater facilities shall be reviewed and approved in advance by the Mississippi Department of Environmental Quality and shall be adhered to during construction.

6.0 TESTING

6.1 Ductile Iron Pipe:

A. Field Inspection: The Engineer shall perform visual inspection of the material prior to placement by the Contractor. The Engineer may make non-destructive tests to determine the soundness of the pipe. The Contractor shall assist the Engineer in handling and moving the pipe as required.

B. Material Test: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittals. No other material test shall be required.

6.2 PVC PIPING: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittal. No other material test shall be required.

6.3 STEEL CASING PIPE: Material test shall be included as part the submittal. No other material test shall be required.

6.4. BEDDING MATERIAL AND STABILIZATION MATERIAL: Test for gradation and test for material passing the No. 40 sieve shall be as follows:

Gradation	- AASHTO T 88
Liquid Limit	- AASHTO T 89
Plasticity Index	- AASHTO T 90

One set of each test listed above will be required for every 500 cubic yards or major fraction thereof.

6.5 COMPACTION TESTS: Compaction tests shall be performed in accordance with AASHTO T 191 or ASTM D 2922. Maximum compaction shall be determined in accordance with AASHTO T99. Compaction tests for sewer pipe related work shall not be less than as follows:

(Number of Compaction Tests)

AASHTO T-99	
AASHTO T-191 or	
ASTM D 2922	
Select Backfill Material OR	
Stabilization Material	1
One per 100 CY	
 Bedding Material	 2
One per 600 LF	
 Tamped Backfill	 2
One per 600 LF	

6.6 INFILTRATION/EXFILTRATION TEST: The Contractor shall provide all plugs, water supply, measuring devices, and all other equipment, material, labor and supervision to measure the infiltration and exfiltration tests as specified below. The Contractor shall perform the test in the presence of the Engineer. All gravity sewer pipe shall be tested in accordance with the following applicable requirements.

A. Infiltration Test: The infiltration test shall be conducted between adjacent manholes. The outlet pipe on the downstream manhole shall be plugged and tested for water tightness to the satisfaction of the Engineer. The accumulated depth of water in the downstream manhole shall be read at 12 hour intervals for two (2) days and the infiltration rate calculated from the data obtained. Any section exceeding an infiltration rate of 200 gallons/day/inch diameter/mile shall be relayed at the Contractor's expense. This means that the Contractor shall locate and repair leaks as necessary to pass the infiltration test. Infiltration test shall be utilized only when ground water is above pipe.

B. Exfiltration Test: The exfiltration test shall be conducted between adjacent manholes. The inlet pipes in the downstream and upstream manholes shall be plugged. The line being tested shall be filled with water until water depth becomes two (2) feet above top of pipe being tested in the upstream manhole. The water loss shall be measured in the upstream manhole at 12

hour intervals for two (2) days and the exfiltration rate calculated from the data obtained. Any section exceeding an exfiltration rate of 200 gallons/day/inch diameter of pipe/mile shall fail the test. The Contractor shall locate and repair leaks as necessary to pass the exfiltration test. A low pressure air test conforming to ASTM C-828-80 or latest revision may be used in lieu of the exfiltration test.

6.7 DEFLECTION TESTS: 100% of the PVC gravity sewer shall be tested 30 days after the final backfill has been in place by the following method:

Use a "Go-, no-go" mandrel which is sized to such dimensions that it will not "go" when encountering a deflection greater than 5%. The instructions for its use are as follows:

A. Completely flush the line making sure the pipe is clean of any mud or debris that would hinder the passage of the mandrel.

B. During the final flushing of the line, attach a floating block or ball to the end of the mandrel, pull rope and float the rope through the line. (A nylon ski rope is recommended)

C. After the rope is threaded through the line, connect the pull rope to the mandrel and place the mandrel in the entrance of the pipe.

D. Connect a retrieval rope to the back of the mandrel to pull it back if necessary.

E. By hand, remove all the slack in the pull rope and place a tape marker on the top at the end of the pipe where the mandrel will exit, determining the location of the mandrel in the line.

F. By hand, draw mandrel through the sewer lines. If any irregularities or obstructions are encountered in the line, they shall be corrected by the Contractor.

G. If a section with excessive deflection is found, locate it; dig down and uncover the pipe; if any damaged pipe is found, replace it; if pipe is not damaged, replace and thoroughly tamp haunching and initial backfill; replace remainder of backfill.

H. Re-test this section for deflection.

STANDARD SPECIFICATION
FOR LINING DUCTILE IRON PIPE
FOR SEWER SERVICE

1.0 Condition of Ductile Iron Prior to Surface Preparation

All ductile pipe and fittings shall be delivered to the application facility without asphalt, cement lining, or any other lining on the interior surface. Because removal of old linings may not be possible, the intent of this specification is that the entire interior of the ductile iron pipe and fittings shall not have been lined with any substance prior to the application of the specified lining material and no coating shall have been applied to the first six inches of the exterior of the spigot ends.

2.0 Lining Material

The Standard of Quality is Protecto 401 Ceramic Epoxy. The material shall be an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment. Any request for substitution must be accompanied by a successful history of lining pipe and fittings for sewer service, a test report verifying the following properties, and a certification of the test results.

- A. A permeability rating of 0.00 when tested according to Method A of ASTM E-96-66, Procedure A with a test duration of 30 days.
- B. The following test must be run on coupons from factory lined ductile iron pipe:
 - 1. ASTM B-117 Salt Spray (scribed panel) - Results to equal 0.0 undercutting after two years.
 - 2. ASTM G-95 Cathodic Disbondment 1.5 volts @ 77°F. Results to equal no more than 0.5mm undercutting after 30 days.
 - 3. Immersion Testing rated using ASTM D-714-87.
 - a. 20% Sulfuric Acid - No effect after two years.
 - b. 140°F 25% Sodium Hydroxide - No effect after two years.
 - c. 160°F Distilled Water - No effect after two years.
 - d. 120°F Tap Water (scribed panel) - 0.0 undercutting after two years with no effect.
- C. An abrasion resistance of no more than 3 mils (.075mm) loss after one million cycles using European Standard EN 598: 1994 Section 7.8 Abrasion Resistance.

3.0 Application

A. Applicator

The lining shall be applied by a certified firm with a successful history of applying linings to the interior of ductile iron pipe and fittings.

B. Surface Preparation

Prior to abrasive blasting, the entire area to receive the protective compound shall be inspected for oil, grease, etc. Any areas with oil, grease, or any substance which can be removed by solvent, shall be solvent cleaned to remove those substances. After the surface has been made free of grease, oil or other substances, all areas to receive the protective compounds shall be abrasive blasted using sand or grit abrasive media. The entire surface to be lined shall be struck with the blast media so that all rust, loose oxides, etc., are removed from the surface. Only slight stains and tightly adhering oxide may be left on the surface. Any area where rust reappears before lining must be reblasted.

C. Lining

After the surface preparation and within 8 hours of surface preparation, the interior of the pipe shall receive 40 mils nominal dry film thickness of Protecto 401. No lining shall take place when the substrate or ambient temperature is below 40 degrees Fahrenheit. The surface also must be dry and dust free. If flange pipe or fittings are included in the project, the lining shall not be used on the face of the flange.

D. Coating of Bell Sockets and Spigot Ends

Due to the tolerances involved, the gasket area and spigot end up to 6 inches back from the end of the spigot end must be coated with 6 mils nominal, 10 mils maximum using Protecto Joint Compound. The Joint Compound shall be applied by brush to ensure coverage. Care should be taken that the Joint Compound is smooth without excess buildup in the gasket seat or on the spigot ends. Coating of the gasket seat and spigot ends shall be done after the application of the lining.

E. **Number of Coats**

The number of coats of lining material applied shall be as recommended by the lining manufacturer. However, in no case shall this material be applied above the dry thickness per coat recommended by the lining manufacturer in printed literature. The maximum or minimum time between coats shall be that time recommended by the lining material manufacturer. **To prevent delamination between coats, no material shall be used for lining which is not indefinitely recoatable with itself without roughening of the surface.**

F. **Touch-Up & Repair**

Protecto Joint Compound shall be used for touch-up or repair in accordance with manufacturer's recommendations.

4.0 Inspection and certification

A. **Inspection**

1. All ductile iron pipe and fitting linings shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PA-2 Film Thickness Rating.
2. The interior lining of all pipe barrels and fittings shall be tested for pinholes with a nondestructive 2,500 volt test. Any pinholes found shall be repaired prior to shipment.
3. Each pipe joint and fitting shall be marked with the date of application of the lining system along with its numerical sequence of application on that date and records maintained by the applicator of his work.

B. **Certification**

The pipe or fitting manufacturer must supply a certificate attesting to the fact that the applicator met the requirements of this specification, and that the material used was as specified.

5.0 Handling

Protecto 401 lined pipe and fittings must be handled only from the outside of the pipe and fittings. No forks, chains, straps, hooks, etc. shall be placed inside the pipe and fittings for lifting, positioning, or laying. The pipe shall not be dropped or unloaded by rolling. Care should be taken not to let the pipe strike sharp objects while swinging or being off loaded. Ductile iron pipe should never be placed on grade by use of hydraulic pressure from an excavator bucket or by banging with heavy hammers.

MANHOLES

1.0 GENERAL:

This item shall consist of furnishing all materials, labor, supervision, tools, equipment and incidentals for the construction of standard manholes, in accordance with the Contract Drawings and Specifications. Included in the work are structural excavation, backfill, and disposal of excess material.

2.0 APPLICABLE DOCUMENTS:

The following publications form a part of this specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

American Society for Testing and Materials (ASTM)

A 48/A48M	Standard Specification for Gray Iron Casting
C 39/C39M	Standard Specification fo Test for Compressive Strength of Cylindrical Concrete Specimens
C 443	Standard Specification for Joints for Circular Concrete Pipe and Manholes Using Rubber Gaskets
C 478	Standard Specification for Precast Reinforced Concrete Manhole Sections
C 497	Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile
C 2922	Density of Soil and Soil Aggregate in Place by the Nuclear Method (Shallow Depths)

American Association of State Highway and Transportation Officials (AASHTO):

M-198	Standard Specifications for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.
T-99	Standard Method of Test for the Moisture-Density Relations of Soils Using a (2.5kg) Rammer and (305 mm) Drop.
T-191	Standard Method of Test for Density of Soil In-Place by the Sand-Cone Method.

3.0 SUBMITTALS

The following tests or data shall be submitted to the Engineer from the Contractor for approval prior to incorporation into the work:

3.1 Certificates: The Contractor shall furnish certificates from supplier certifying the products conform to the required specifications included herein for the following items:

- 3.1.1. Flexible Plastic Gaskets
- 3.1.2. Precast Manhole Bases
- 3.1.3. Precast Manhole Riser Sections
- 3.1.4. Manhole Steps
- 3.1.5. Manhole Frames and Covers (ASTM A 48)
- 3.1.6. Epoxy Grout

3.2 Catalogue Cuts or Brochures: The Contractor shall also submit catalogue cuts or product brochures providing descriptive data, recommended application and use, and installation procedure for the following items:

- 3.2.1. Manhole Frames and Covers
- 3.2.2. Epoxy Grouts
- 3.2.3. Manhole Steps

4.0 MATERIALS

4.1 Manhole Riser Sections: Manhole riser sections shall be precast reinforced sections conforming to ASTM C 478 and as shown on the Contract Drawings.

4.2 Joints: Joints for precast riser sections shall be concrete pipe type flexible plastic gaskets. Joint material shall be preformed conforming the requirements of AASHTO M-198. Installation shall be in accordance with manufacturer's recommendations.

4.3 Concrete Manhole Bases: Concrete manhole bases shall be precast or cast-in-place as follows:

4.3.1 Cast-In-Place Manhole Bases and Box Type Bases (if used): Concrete and reinforcing steel shall conform to the requirements of Technical Specifications - CONCRETE.

4.3.2 Precast Concrete Bases: Precast concrete bases shall conform to the requirements of ASTM 478 with reinforcing steel (size and spacing as indicated on the plans).

4.4 Manhole Steps: Manhole steps shall be plastic coated corrosion resistant and shall be installed as shown on the Contract Drawings.

4.5 Cement Grout: Cement grout shall be high strength, non-metallic conforming to Corps of Engineers CRD-C-588. The grout shall be V-3 by W. R. Meadows, Inc., Masterflow 713 by Master Builders or equal.

4.6 Manhole Frame and Covers: Manhole frame and covers shall conform to ASTM A 48 as well as to the following requirements. All frame and covers shall be new when installed for the project.

4.6.1 Standard Manhole Cover and Frame - shall be as manufactured by Dews Foundry, Jackson Standard, Model DF-25 (7) or Vulcan Foundry, Model V-1115, 420 Pounds, marked "SEWER", domestic origin, or equal.

4.6.2 Water Tight Manhole Cover and Frame - shall be as manufactured by Vulcan Foundry, Model V2357, or Dews Foundry, Model DF-25(7)W.T., 410 pounds with neoprene gasket, four 5/8 inch stainless steel bolts recessed into cover. Cover labeled "SEWER", domestic origin, or approved equal.

4.7 Epoxy Grout: Epoxy Grout shall be high strength non-metallic, non-shrinking. The grout shall be as by EMBECO, Inc., SEAL-COAT or approved equal.

4.8 Drop Manholes: Concrete for drop manholes shall conform to the requirements of Technical Specifications - CONCRETE. Pipe and fittings shall be the same material and size as the incoming gravity sewer.

4.9 Flexible Connection: At all sewer connections to manholes, provide gasket flexible watertight connection that allows for differential settlement of the pipe and manhole wall.

4.10 All manholes: All manholes shall be lined inside with a sixteen (16) mil dry film thickness of an acceptable coal tar epoxy system.

5.0 CONSTRUCTION

5.1 Earthwork

5.1.1 General: Excavation shall be to the extent required to allow proper construction of the manhole. Shoring and sheeting shall be utilized where required by Federal, State and local codes and regulations for safe working conditions. In addition, shoring and sheeting shall be required to protect the integrity of adjacent structures or prevent adverse effects on surrounding areas. Dewatering shall be employed to the extent required to allow dry working conditions.

5.1.2 General Excavation: The Contractor shall "lay back" or employ shoring and

sheeting as required to assure stability of the excavation. Material shall be stockpiled so as not to surcharge adjoining pipe trenches. Topsoil shall be separated so as to allow the maximum reuse in grassing operations.

5.1.3 Structural Excavation: The area immediately beneath the manhole bases shall be graded and compacted. Compaction shall be to 96% of maximum laboratory density as determined by AASHTO T 99. Should unsuitable material be encountered, the Engineer may direct that the area be over excavated and filled with stabilization material. Specification for stabilization material and payment for such shall be in accordance with Technical Specifications.

5.1.4 Backfilling: Backfill material shall consist of select backfill in accordance with Technical Specifications. Backfilling shall be uniformly placed around the structure in 10-inch layers and be compacted to 90% of maximum density to full depth in unimproved areas. Backfill in paved areas and within five feet to any edge of pavement shall be compacted to 95% of maximum laboratory density in 8-inch layers to the subgrade line. Refer to Technical Specifications.

5.1.5 Salvage: Manhole frames and covers removed during excavation shall remain the property of the Owner and shall be delivered to a location designated by the Owner. All other items removed shall be disposed of by the CONTRACTOR at his expense.

5.2 Riser Installation: Precast concrete riser sections shall be installed plumb and in accordance with the details shown on the Contract Drawings. Joints shall be installed in accordance with manufacturer's recommendations.

The manhole invert channels shall be formed in the bases, smooth and semi-circular in shape conforming to the inside of the adjacent sewer section. Changes in the direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit. Changes in size and grade of the channels shall be formed directly in the concrete of the manhole base. The joint between the base and riser section shall be sealed with epoxy grout. Clean pea gravel shall be used as the epoxy grout filler.

Standard manhole cut-outs and lifting holes shall be sealed with epoxy grout.

5.3 Cast-In-Place Concrete: Bases, flat tops, and drop manhole risers shall be constructed in accordance with Technical specifications - CONCRETE.

5.4 Manhole Steps: Manhole steps shall be installed during the manufacturing of the riser or cone sections. Risers and cones shall be joined so the steps are vertically aligned.

5.5 Manhole Frame and Covers: Manhole frame and covers shall be set and grouted in place with cement grout. For manholes located in roads or streets, the manhole cover shall be flush with pavement or surface course.

6.0 TESTING

6.1 General: The Contractor shall conduct (and bear the cost of) all testing (Laboratory Approved by the Owner) as directed by the Engineer and furnish results of such tests prior to incorporating the material into the work. All testing is subsidiary to Manhole Payment Items.

6.1.1 Cast-In-Place Concrete Items: The concrete quality testing for manhole bases, drop manholes, and valve boxes shall be tested in accordance with Technical specifications - CONCRETE.

6.1.2 Manhole Risers and Precast Concrete Bases: Manhole risers and precast concrete bases shall be tested for concrete compressive strength. If the place of manufacture is local and reasonably available to the Engineer, Paragraph (a) shall be followed for testing requirements. Should the place of manufacture not be available, Paragraph (b) shall apply.

The contractor shall prepare (in the presence of the Engineer) standard rodded concrete cylinder or cylinders compacted and cured in a similar manner to the manhole sections. Concrete for such cylinders shall be typical fresh concrete mix drawn from the actual casting operation of a riser or base. Cylinders shall be tested in accordance with ASTM C 39. The average compressive strength shall be equal to or greater than the specified design strength (4000 psi). Not more than 10% of the cylinders shall fall below the design strength (4000 psi). In no case shall any cylinder tested fall below 3200 psi. Number of such cylinder tests shall be as follows:

6.1.2.1 One set of cylinders for each day's run castings or

6.1.2.2 One set of cylinders for each 200 linear feet of riser sections manufactured.

6.1.2.3 One set of cylinders per 20 bases or flat tops manufactured.

The Engineer may require additional tests should compressive test results fail.

6.1.3 Earthwork Test: Maximum laboratory density shall be measured in accordance with AASHTO T-99. Field densities shall be determined in accordance with AASHTO T-191 or ASTM D 2992. Standard proctors and field densities shall be performed in accordance with the following schedule.

Standard proctor tests shall be required for earthwork associated with manhole construction. At least two (2) field density tests shall be conducted for earth work associated with each manhole construction.

6.1.4 Inspection for Watertightness: All manholes shall be inspected for watertightness prior to placing into service.

RESTORATION OF ROADS, DRIVEWAYS, FENCES

LAWNS AND OTHER GRASSED AREAS

1.0 GENERAL

The work under this item of work shall consist of furnishing all necessary materials, labor, supervision, tools, equipment and incidentals for the restoration of roads, driveways, fences, lawns and other grassed areas so as to provide satisfactory repair to all damage caused by general construction work. It is the intent of this Specifications to restore all such features to the general conditions that existed prior to construction activity insofar as practical. It is not the intention of this Specification that trees, which must be cut and removed, be restored. The Contractor is expected to be familiar with the overall area and be satisfied as to the materials required and level of effort needed to accomplish such restoration in accordance with this Specification.

2.0 APPLICABLE PUBLICATIONS

The following publications form a part of this specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work:

American Association of State Highway and Transportation Officials (AASHTO).

- T 99 Standard Method of Test for the Moisture Density Relations of Soils Using a 5.5 lg. (2.5 kg) Rammer and a 12-inch (305 mm) Drop.
- T 167 Compressive Strength of Bituminous Mixture
- T 191 Standard Method of Test for Density of Soil In-Place by the Sand-Cone Method
- T 230 Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures

American Society for Testing and Materials (ASTM)

- D 2922 Density of Soil and Soil Aggregate in Place by the Nuclear Method (Shallow Depths)

Mississippi Department of Transportation (MDOT)

Standard Specifications for Road and Bridge Construction, Current Edition.

Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)

3.0 SUBMITTALS

3.1 Mix Designs: Design mix will be provided by Contractor and approved by Engineer prior to production of asphalt.

4.0 MATERIALS

4.1 Subbase and Base Courses: Subbase and base courses under paved areas shall be as specified in MDOT Specification Section 301.

4.2 Prime Coat: Prime coat shall consist of Grade MC-30 or Grade MS-70 in accordance with the applicable requirements of MDOT Specification Section 702.

4.3 Bituminous Pavement: Bituminous Pavement for roadway and parking areas, wearing and binder courses, shall consist of a mix in accordance with MDOT Specifications Section 403. Materials shall conform to the following subsection of MDOT Specifications Sections 702 and 703.

Bituminous Materials (AC-20) 702.01 Aggregate

A. BC-1 Binder Course

B. SC-1 for Surface Course Filler 703.14

C. Topsoil: Topsoil shall be in accordance with Technical Specifications – SEEDING AND SODDING.

E. Seeding and Sodding: Seeding and sodding operations shall be in accordance with Technical Specifications - SEEDING AND SODDING.

5.0 CONSTRUCTION

5.1 Maintenance of Traffic: Prior to limiting or restricting traffic on any street or road, the Contractor shall obtain permission from the Engineer. Through or local traffic shall at all times be accommodated by the use of temporary approaches, crossings or detours (if allowed by the

Engineer). Satisfactory (to the Property Owner) ingress and egress to any public or private property shall be properly maintained. Proper barricades, signs and detour signs shall be provided by the Contractor to adequately warn motorists of obstructions ahead. Lighted (flashing) barricades shall be used at night.

Flagmen shall be provided to direct traffic around equipment and for one way movement of traffic around equipment and for one way movement of vehicles. The Contractor may have to stop construction and restore full traffic during certain rush hours.

The Contractor shall at all times (unless otherwise permitted in writing by the Engineer) maintain open one lane to traffic during construction operations and restore roadways to two-way traffic during non-construction hours. All traffic shall be maintained in accordance with the MUTCD, current Edition.

5.2 Repair of Asphalt/Concrete Streets/Driveways/Parking Lots:

A. Removal and Earthwork: The existing asphalt pavement shall be uniformly saw cut on straight lines and the material shall be removed. Other methods of cutting the existing asphalt surface which will result in a uniform straightedge similar to a sawed cut may be acceptable. Upon completion of the pipe laying, select backfill shall be placed in the excavation in maximum 8-inch lifts and compacted to at least 90% of maximum laboratory density to within one foot of the top subgrade and to 95% of maximum laboratory density in the upper one foot of the subgrade.

Maximum density of typical select backfill material shall be determined in accordance with AASHTO T 191 or ASTM D 2922. Portable mechanical tampers or vibratory compactors shall be used in the trenches. Rollers may be used at street level. Existing base and asphalt surfaces which become undermined during construction shall be removed until firm undisturbed subgrade is reached.

A. Clay Gravel Base Course: Class 4, Group "B" as per 2006 Edition of Mississippi State Highway Department Road and Bridge Specification.

B. Asphalt Repair: Temporary Asphalt repair shall be made using 2" thickness of milled asphalt material.

C. Concrete Repair: Concrete repair shall be made using 3,000 psi concrete meeting Technical Specifications - CONCRETE

D. Prime Coat: Prime coat shall be applied to exposed existing base material prior to overlay with asphaltic base course in accordance with MDOT Specification Section 408.

F. Tack Coat: Tack coat shall be applied to existing or new asphaltic wearing course and asphaltic base, or concrete which is to require asphalt wearing course.

G. Asphalt Wearing Course: Placement and compaction of the bituminous pavement shall be in accordance with MDOT Specification Section 403.03.

E. Utilities: All utility covers excavated during removal of streets, driveways, parking lots shall be restored to finished grade.

5.3 Driveways and Sidewalks: Driveways and sidewalks shall be repaired in similar manner to the original construction. Asphalt drives shall be saw cut where required and repaired in accordance with Paragraph (b) of this Specification. Concrete drives shall be saw cut or removed to the next joint. The minimum thickness for concrete driveway repair is 6 inches and for sidewalks is 4 inches.

Concrete surfaces shall be properly tooled and receive a broom finish. Installation (if required) of new driveway drainage culvert shall be made only at the direction of the Engineer. The Contractor shall take all reasonable precautions to allow for reuse of existing drainage culverts.

5.4 Repair to Gravel Roads: Gravel roads shall be backfilled and compacted in accordance with Paragraph (B) of this Specification. The final surface shall consist of 12-inch in-place compacted clay gravel. Compaction shall be to 100% of maximum laboratory density in accordance with AASHTO T99.

5.5 Repair to Lawns:

A. General: The Contractor shall exercise extreme care to minimize damage to improved lawns. Trees and shrubs within the limits of work shall be removed only for essential construction requirements. Any shrubs, which are removed or damaged, shall be replaced by satisfactory (to the Property Owner) planting by the contractor. Any grass seed areas, roads, streets, driveways, culverts, fences, water lines, metal boxes or other items (excluding trees unavoidably cut) which are damaged by the Contractor, shall be satisfactorily restored by Contractor. Acceptance of improved lawn repairs shall be based on the firm establishment of live stand of grasses and live growth of any replanted and acceptable shrubs. The Contractor shall water and fertilize such areas until healthy growth of grass (and shrubs, if applicable) are attained.

B. Grading: The surface areas shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse effects to adjoining properties.

C. Topsoil: The Contractor shall strip topsoil and sod and stockpile for later use. Upon completion of trenching over the area. Additional topsoil shall be furnished if required (at no additional cost) to provide a uniform thickness of 3 inches. Lime at a rate of 1 - ½ tons per acre and fertilizer (13-13-13) at a rate of 800 pounds per acre shall be applied as needed to further

establish grass growth.

D. Grassing: Grass seed, sprigs, or sod similar to the existing lawn grasses shall be planted in accordance with the supplier's recommendations. Winter cover grasses such as rye grass shall be applied (in addition to planting the permanent grasses) if seeding, sprigging, or sodding is done at a time of year when the permanent grasses will not actively grow. The type (s) of permanent grasses shall be the same as the grass (es) in the damaged lawns. If the lawn repairs are accomplished between September 1 and March 1, the Contractor shall continue the restoration work during the next period of March 15 and April 5 and mow the grass and continue the restoration until satisfactory growth of the permanent grass (es) is obtained. Such additional restoration work shall include the 1 - ½ tons of lime per acre, application of 13-13-13 fertilizer at a rate of 800 pounds per acre and replanting and watering permanent grass as necessary to obtain satisfactory (to Engineer) growth. No time will be charged against the Contract Time for any such additional restoration work.

Sodding: Sodding shall be in accordance with Technical Specifications: - Seeding and Sodding

5.6 Erosion Control: During all phases of construction, the Contractor shall adequately protect all work from adverse erosion. Soil shall not be allowed to flow off the limits of work area. The Contractor shall employ the use of ditch checks, matting, temporary grass cover, blankets, or other measures to control erosion. The Contractor shall be responsible to correct damage caused by erosion. During the construction of this project, all work areas will be strictly monitored. All trench lines will be kept in excellent condition, all streets and drives will receive careful maintenance, keeping potholes and settled areas filled in. Dust control is essential and will also be strictly monitored.

5.7 General Grassing of Unimproved Areas

A. General: The Contractor shall seed and establish grass growth in all disturbed areas in unimproved areas (to include pastures and roadsides). Acceptance of the grass cover shall be based upon the firm establishment of a live stand of grass. The contractor shall water such grass if natural rainfall fails to adequately provide moisture. On slopes and other areas subject to erosion, grassing shall be accomplished as soon as practical (within 48 hours unless weather is prohibiting) after finish grading operations.

B. Grading: The surface area shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse effects to adjoining properties.

C. Topsoil: The Contractor shall remove existing topsoil and stockpile for later use. Upon completion of backfilling (to establish contours as before construction), the topsoil shall be uniformly spread back over the area. The Engineer may require additional topsoil be furnished by the Contractor, if in the opinion of the Engineer, adequate provisions and efforts

were not made by the Contractor to stockpile and re-use existing topsoil material.

D. Fertilizer and Agricultural Limestone: The Contractor shall uniformly apply 800 lbs. per acre of 13-13-13 fertilizer and also apply two (2) tons per acre of agricultural limestone to the area to be seeded. The fertilizer and limestone shall be tilled into the soil to a depth of four (4) inches.

Seeding: Seed shall be uniformly sown in accordance with Technical Specification - Seeding and Sodding

Sodding: Sod shall be place in accordance with Technical Specification - Seeding and Sodding

E. Mulch Cover: Erosion prone areas such as steep slopes and highway shoulders shall receive a layer of loose straw mulch or equivalent at the rate of one and one-half (1-1/2) tons per acre. The mulch cover shall be established by the application of an emulsified asphalt or by "crimping" parts of the material into the soil.

5.8 Miscellaneous Items: Items such as fences, gates, paved ditches, and other items shall be replaced or repaired as required for restoration. Should additional fencing material be required, new post and new wire of similar size, type and gauge shall be provided and installed.

5.9 General Care: Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees, which do not have to be removed in the opinion of the Engineer, and which receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.

6.0 TESTING

6.1 General: All sampling and testing shall be accomplished by the testing laboratory approved by the Owner and employed by the Contractor to perform such services. Results shall be immediately forwarded to the Engineer by the Contractor.

6.2 Earthwork: Earthwork directly involved with road and street repair shall be tested as follows:

A. Moisture Density Relationship (Standard Proctors): Two tests of sampled native material shall be required. Tests shall be in accordance with AASHTO T 99.

B. Field Density: A minimum of two and a maximum of four field density tests shall be required. Density tests shall be in accordance with AASHTO T 191 or ASTM D 2922.

C. Topsoil: Two pH tests and two organic content tests (wet combustion method) will be required.

CONCRETE

1. GENERAL

A. This item shall consist of furnishing all materials, labor, supervision, tools, equipment and incidentals and performing all forms of work; furnishing and placing reinforcement, inserts and anchors; mixing, placing, curbing, and furnishing of portland cement concrete.

B. The work includes, but is not necessarily limited to manholes, pumping stations, lift stations and minor concrete work.

2. APPLICABLE DOCUMENTS

The following publications form a part of this Specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publication referenced shall apply to the work.

A. American Society for Testing and Materials (ASTM):

A 615 Billet Steel for Concrete Reinforcement

C 31/C 31M Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field

C 33 Specifications for Concrete Aggregates

C 39/C 39 M Compressive Strength of Molded Concrete Cylinders

C 143 Slump of Portland Cement Concrete

C 150 Portland Cement

B. Mississippi Department of Transportation (MDOT):

Standard Specifications for Road and Bridge Construction Current Edition.

3. SUBMITTALS:

The following data shall be submitted to the Engineer for review prior to incorporation into the work:

A. Letter from the manufacturer certifying the concrete mix conforms to the requirements for Class

B concrete as defined in Section 804 of the MDOT Standard Specifications for Road and Bridge Construction.

B. Letter of certificate from the manufacturer certifying that the reinforcing steel conforms to the herein specified requirements.

4. MATERIALS:

A. General: The concrete shall be ready-mix concrete manufactured by a plant for delivery to the site of the work in a plastic state. The Contractor may batch the concrete at the work site by use of portable mixers providing the following requirements are met:

1. Facilities shall be provided to properly weight, proportion and control the components of the concrete mix.
2. The mixer(s) shall be of such capacity so as to allow the complete placement of the plastic concrete mix prior to the initial set of any portion of the particular concrete pour.

B. Concrete Mix: The concrete materials and mix design, shall conform to the requirements for Class B concrete Section 804, MDOT Standard Specifications for Road and Bridge Construction. The compressive strength of the concrete shall be a minimum of 3000 psi at 28 days, or earlier. Type I Portland Cement shall be used in the mix, except where otherwise specified or permitted. Prior to producing any concrete for cast-in-place construction on the project, the Contractor shall submit to the Engineer the proposed mix design and shall obtain Engineer's approval of the mix design.

C. Reinforcing Steel - shall be new stock, deformed bars conforming to ASTM A 615, Grade 40 or Grade 60.

D. Curing Material - shall consist of wetted burlap, wetted cotton mats, plastic sheeting, or an approved liquid membrane material which will satisfactorily keep the new concrete in a moist condition for at least seven (7) days.

5. CONSTRUCTION:

A. Weather Limitations: Concrete shall be placed when the atmospheric temperature is a minimum of thirty-five (35) degrees F. and rising. Newly placed concrete shall be protected from cold temperatures for at least four (4) days at a temperature of not less than forty (40) degrees F.

B. Forms: Forms shall be securely anchored in place and properly aligned. Wood forms shall be oiled prior to placement of fresh concrete mix.

C. Reinforcement: Reinforcing bars shall be securely mounted by the use of chairs or other approved methods so as to not become displaced during placement of concrete mix. The positioning of reinforcing by working the bars into the newly placed concrete mix shall not be allowed.

D. Placement: The plastic concrete mix shall be worked (and vibrated if required) into the form work. The mix shall be consolidated so as to remove all voids and finished to form a true and level surface.

E. Curing: The hardened concrete shall be kept moist by the use of curing materials for a minimum of seven (7) days.

F. Slump Requirements: The following slump requirement shall apply:
Class B Concrete 2-4 Inches

G. Chamfered Corners: All exposed corners shall be chamfered one (1) inch or as indicated.

H. Finish:

1. All surfaces shall be "floated" to provide a uniform and level surface. Defects (honeycombs, ties, etc.) shall be repaired. No rubbing shall be required.

2. Sidewalks, driveways and other surfaces subject to pedestrian traffic shall be floated as noted in paragraph 1 above and shall receive a "broom" finish.

6. TESTING

The following test shall be required:

A. Slump: The Engineer shall test the concrete mix for conformance to the slump requirements as required. Test shall be in accordance with ASTM C 143.

B. Compressive Strength: The Engineer shall sample the concrete mix and prepare test cylinders for conformance to the compressive strength requirements. The Contractor shall transport the cylinders to the testing laboratory (employed by the Contractor) and have the cylinders tested in accordance with ASTM C 31 and C 39. The results of such test shall be forwarded to the Engineer. Test shall be performed at the following schedule.

One test per 15 cubic yards or major fraction thereof. A minimum of one test for each day of mixing shall be performed.

SEEDING AND SODDING

1.0 DESCRIPTION

This item consists of furnishing all labor, supervision, materials, tools, incidentals and equipment and performing all work for topsoiling, tilling, fertilizing, seeding, watering, and otherwise establishing, protecting and maintaining seeded and sodded areas as required by the Contract Drawings and these specifications, and including repair, refertilizing and reseeding as required until final inspection and acceptance of the project.

2.0 SUBMITTALS

Certificates for fertilizer, limestone, seed.

3.0 MATERIAL

3.1 Topsoil: Topsoil shall be the surface layer of soil that is stockpiled by the Contractor during stripping and/or excavation on the site. The topsoil shall be free of subsoil, clay, lumps, stones, brush or seed. Topsoil shall have a pH value of not less than 4.5 nor more than 8.0.

3.2 Lime: Lime shall be ground limestone containing not less than 80% of total carbonates and shall be ground to such fineness that 80% will pass through a No. 10 mesh sieve and 40% will pass through a No. 40 mesh sieve.

3.3 Fertilizer: Fertilizer shall be water soluble commercial carriers of available plant food elements or combinations thereof, as stated herein and shall conform to the applicable state fertilizer laws. They shall be uniform in composition, dry, and free flowing materials in condition for application by suitable equipment. The fertilizer shall be delivered in standard bags or other convenient standard containers, each fully labeled with manufacturer's guaranteed analysis. Any fertilizer shall contain not less than the percentages by weight of the ingredients set out as follows: (1) Nitrogen, 13% (2) Phosphorous P O, 13%, (3) Potash K C, 13%. Invoices for fertilizer will show the kind and have analysis furnished.

3.4 Seed: Seeds with a minimum pure live seed content of 90% shall be used. They shall be of the best grade and of known vitality, purity, and germination and shall be delivered in containers bearing seed tags as required by law showing percentages of germination content and purity of seed as well as percentages of weed seed content.

All seeds shall be free of wild onion, Canadian thistle, Johnson grass, crab grass or other seeds of noxious weeds. All seeds shall be furnished in standard containers, or as acceptable to the Engineer. Seed which has become wet, moldy or otherwise damaged in transit or storage will not be acceptable.

Purity, Germination and Planting Schedule

Spring and Summer Seeding (March 1 to September 1)

<u>Name</u>	<u>Percent Purity</u>	<u>Percent Germination</u>	<u>Mix (Dry Wt. Lbs.) Per Acre</u>
Hulled Bermuda	95	90	20
Pensacola Bahia	95	90	30

TOTAL 50
Fall and Winter Seeding (September 1 to March 1)

<u>Name</u>	<u>Percent Purity</u>	<u>Percent Germination</u>	<u>Mix (Dry Wt. Lbs.) Per Acre</u>
Unhulled Bermuda	95	90	20
Pensacola Bahia	95	90	30
Rye	95	85	15
Crimson Clover	95	85	8

TOTAL 73

Seeding in Existing Lawns: Grass seeds for existing lawns shall be the same as the existing grass.

3.5 Leguminous Inoculants: Inoculation media containing live nitrogen-fixing bacteria shall be supplied with all legume seed. The inoculants shall be standard, pure culture of nitrogen-fixing bacteria. Each kind of legume will require a cultural bacteria that is adapted to that particular kind of seed. The bacteria shall be supplied in convenient containers of a proper size to treat the amount of seed to be planted. The legume seeds shall be treated according to the directions, and before the expiration date for use of the media shown on the container.

3.6 Soil for Repairs: for fills or areas to be repaired, soil shall be topsoil of a least equal quality to that which exists in areas adjacent to the area to be repaired.

3.7 Water: Water shall be free from oil, acid, alkali, salt, and other substances harmful to growth of grass, and shall be from a source accepted prior to use.

3.8 Solid Sod: Bermuda or Carpet Grass and shall be native to the locality of the work and shall, when placed be live, fresh, growing grass with at least two and one-half (2 ½) inches of soil adhering firmly to the roots. The sod shall be reasonably free from obnoxious weeds or other

grasses, and shall not contain any matter deleterious to its growth; or which might affect its subsistence or hardness when transplanted. The sod shall be in blocks at least 3" x 8", and free from ragged edges.

4.0 INSPECTION AND TESTS

4.1 Fertilizer and Limestones: Duplicate copies of material invoices shall be furnished to the Engineer. Invoices shall show quantities and grade of fertilizer, quantity of limestone, percentages of calcium carbonate and magnesium carbonate, as applicable, and the percentages of limestone that pass the No. 40 and the No. 10 mesh sieves. Samples of each lot of fertilizer and limestone shall be furnished for testing. Upon completion of project a final check of total quantities of fertilizer and limestone used will be made against total area treated, and if minimum rates of application have not been met, additional quantities of these materials to make up minimum application specified shall be distributed.

4.2 Seed: Contractor shall furnish to the Engineer duplicate signed copies of statement(s) from vendor(s), certifying that each container of seed delivered is labeled in accordance with Federal Seed Act and is at least equal to requirements specified therein. This certification shall be obtained from vendor and shall be furnished before application.

5.0. PREPARATION OF GROUND SURFACE

5.1 General: Equipment, in good operating condition, shall be used for the proper preparation of the ground and for handling and placing all materials. Equipment shall be acceptable before work is started.

5.2 Topsoiling: Topsoil shall be obtained from job site stockpiles formed during stripping and/or excavation operations and shall be free from subsoil, clay lumps, stones, brush, grasses or weeds, excess acids or alkali, or any other material to subsequent, smooth, grading, planting, and maintenance operations.

The topsoil shall be evenly spread on tilled areas to a uniform depth of at least 3 inches after compaction. Spreading shall be performed so that seeding can proceed with a minimum of soil preparation or tilling. After preplanting fertilization is completed, the topsoil shall be compacted by rolling with a cultipacker or by other approved means.

Rehabilitation of the stockpile areas shall include returning the area to near pre-construction conditions, including seeding of the area to re-establish the growth of grass.

5.3 Grading: Previously established grades shall be maintained on the areas to be treated in a true and even condition; necessary repairs shall be made to previously graded areas by means of graders or other approved equipment.

5.4 Tillage: After the areas required to be treated have been brought to the grades shown, the

soil shall be tilled to a depth of at least 4 inches by plowing, disking, harrowing, or other acceptable operations until the condition of the soil is acceptable. The work shall be performed only during period when beneficial results are likely to be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. Undulations or irregularities in the surface shall be leveled before the next specified operation.

6.0 APPLICATION OF FERTILIZER AND LIMESTONE

6.1 Preplanting fertilization of areas to be seeded: Fertilizer shall be distributed uniformly at a rate of 800 pounds per acre over areas to be seeded and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of fertilizer may be part of the operation specified in Section 5.4: TILLAGE of this specifications.

6.2 Liming: Immediately following or simultaneously with incorporation of fertilizer, limestone shall be distributed uniformly at a rate of 4000 pounds per acre, and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of limestone along with fertilizer may be part of the operation specified in Section 5.4: TILLAGE of this specifications.

6.3 Leveling: Surface irregularities resulting from tillage, fertilizing, liming, or other operations shall be leveled before seeding.

6.4 Postplanting fertilization: From 40 to 60 days after seeding, ammonium nitrate or its nitrogen equivalent shall be applied uniformly at a rate of 225 pounds per acre over areas seeded. Fertilizer shall be applied when grass blades are dry to minimize burning. The planted area shall be watered to thoroughly moisten the upper 6 inches of the soil surface after the fertilizer is applied.

7.0 PLANTING SEED

7.1 General: A satisfactory method of sowing shall be employed, using approved mechanical power-drawn drills or seeders, or other approved methods. When drills are used, markers or other means shall be provided to insure that the successive seeded strips will overlap or be separated by a space no greater than 6 inches. When delays in operations extend the work beyond the most favorable planting season for species designated or when conditions are such by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, work shall be halted as directed and resumed only when conditions are favorable or when approved alternate or corrective measure and procedures have been effected. If inspection during or after seeding operations indicates that strips wider than 6 inches have been left unplanted or other areas skipped, additional seed shall be sown.

7.2 Broadcast Seeding: Seeding shall be broadcast either by hand or with acceptable seeding equipment, in combination with fertilizer, or with other acceptable sowing equipment. Seed shall

be distributed uniformly over designated areas. Half of the seed shall be sown with sower moving at right angles to first sowing. Seed shall be covered to an average depth of 1/4 inches by brush harrow, spiketooth harrow, chain harrow, cultipacker, hand rake with wood tines, or other approved device. Seed shall not be broadcast during windy weather.

7.3 Drill Seeding: Drill seeding shall be accomplished with approved equipment with drills set not more than 6 inches apart. Seed shall be sown uniformly over designated areas to average depth of 1/4 inch.

7.4 Sodding: All solid sod shall be procured areas where the soil is fertile and contains a high percentage of loamy topsoil, and from areas that have been grazed or mowed sufficiently to form a dense turf.

Mechanical devices, such as sod cutter, may be used for cutting the sod into strips or blocks. Care shall be exercised at all times to retain the native soil on the roots of the sod during the process of excavating, hauling and planting.

The solid sod blocks shall be transplanted within 24 hours from the time of cutting, unless they are stacked at their destination in a manner satisfactory to the Engineer. All solid sod in stacks shall be kept moist and protected from exposure to the air and sun, and from freezing. In no event shall more than two (2) days elapse between the cutting and planting of the solid sod.

Solid sod shall be planted during the period between March 1st and December 15th, unless written permission is given by the Engineer to extend the planting season. The solid sod shall be placed on the prepared surface with the edges in close contact. All cracks between blocks of solid sod shall be closed with small pieces of fresh sod, and all cracks too small for sod shall be filled by a light dressing of topsoil. The entire sodded area shall then be compacted and watered to the satisfaction of the Engineer. Rollers, hand tamps or other approved equipment may be used for compacting.

Surfaces of solid sodding which, in the opinion of the Engineer, may slide due to the height and slope of the surface or nature of the soil, shall, upon direction of the Engineer, be "pegged" with wooden pegs driven through the sod blocks into firm earth, sufficiently close to hold the sod in place.

8.0 MAINTENANCE

Seeded areas shall be maintained until all work or designated portions thereof have been completed and accepted. Tall grass and weeds that tend to impede the desired grass species shall be mowed, and any damage resulting from these operations shall be repaired at the Contractor's expense.

9.0 ESTABLISHMENT OF GROWTH

9.1 General : The Contractor shall be responsible for proper care of seeded areas while grass is becoming established for three (3) months after completion of treatment on the entire project, unless desired cover is established in a shorter period of time and the Owner shortens responsibility period. The Contractor shall be responsible for providing a satisfactory stand of grass. A satisfactory stand of grass is determined as a cover of living grass in which gaps larger than 12 inches square do not occur as determined by an acceptance inspection made at the end of the maintenance period. Maintenance work shall be performed at the Contractor's expense.

9.2 Mowing: Seeded and sodded areas shall be mowed with acceptable mowing equipment to a height of about 4 inches when average height of grass becomes about 8 inches. When amount of cut grass is heavy, grass shall be removed to prevent destruction of underlying turf. If weeds or other undesirable vegetation threatens to impede the growth of planted species, such vegetation shall be mowed, or in case of excessive growth, shall be uprooted, raked and removed from area.

9.3 Refertilizing: The Contractor will determine areas needing refertilization at least 15 days before application is required. Fertilization shall be distributed on designated area during periods when grass is dry. 13-13-13 grade fertilizer shall be applied uniformly at a rate of 800 pounds per acre. Fertilizer conforming to physical condition, packaging and marking as specified hereinbefore shall be provided.

9.4 Reseeding: The Contractor will determine areas requiring reseeding at least 15 days before period specified for reseeding. Seed specified hereinbefore shall be drilled at rates hereinbefore specified, in a manner that will cause minimum disturbance to existing stand of grass, and at an angle of not less than 15 degrees from direction of previously seeded rows.

CONNECTION TO MAINLINE PIPE (INSERT-A-TEE)

“Connection of the new service lateral* to the mainline shall be accomplished by means of a compression-fit service connection. The service connection shall be specifically designed for connection to the sewer main being installed, and shall be INSERTA TEE as manufactured by INSERTA FITTINGS Co., Hillsboro, Oregon, Telephone (503) 357-2110; Fax (503) 359-5417; or approved equal. Installing using procedures and equipment as referenced in manufacturer’s written installation instructions.”

****Types available for all mainlines***

PART NO.	TYPES	GASKETED BELL SDR 35	GASKETED BELL IPS/SCII 40
1	PVC Hub	ASTM D3034	ASTM D3034 SDR 26
2	Gasket	ASTM F477	ASTM F477
3	Band	301 SS	301 SS
3	Screw	305 SS	305 SS
3	Housing	301 SS	301 SS
4	Rubber Sleeve	ASTM C443	ASTM C443

SECTION 631 - SEWAGE PUMPING STATION

631.01 -Description. The work covered by this section consists of furnishing all labor, equipment and materials and performing all operations in connection with the installation, rehabilitation and/or demolition of solids handling, submersible pumps, pump station, wetwell, valve vault, piping and valves per details as indicated on the plans and as specified herein. The work includes clearing, grubbing, dewatering, bedding, pipe laying, backfilling, testing, fittings, and appurtenances required for a complete installation.

631.01.1 - Manufacturer's Experience. It is the intention of this Specification to cover minimum acceptable quality equipment for a complete installation. The Equipment Manufacturer shall have not less than 5 successful years experience in the design, construction and operation of equipment of the type specified at a minimum of 5 different collection system entities.

The Engineer may require evidence, in the form of operating records, from these collection system entities to substantiate any claims concerning the ability of the proposed sewage pumping equipment to perform as required.

631.01.2 - Supplier's/Manufacturer's Services. A Supplier's and / or Manufacturer's representative for the equipment specified herein shall be made available at the job site in the event of failure or other malfunction of the equipment or basin to verify the problem and take whatever action is necessary for correction thereof. The cost of this service shall be included in the pump supplier's cost.

Upon completion of pump station installation, a Supplier's and/or Manufacturer's representative for the equipment specified herein shall be made available at the job site for start-up, check-out, and testing of all pumps, controls, and other associated pump station equipment to the satisfaction of the Construction Manager, Owner, and the Engineer. The cost of this service shall be included in the pump supplier's cost.

631.02.1 - MATERIALS

631.02.01 - Pumping Station. Contractor shall furnish and install Essco submersible pumping units, complete with motor, equipped with cool agent apparatus or approved equal. The pump shall be capable of continuously pumping with the liquid level at the top of the volute without overloading. Pumps shall be manufactured by Essco Pumps, Inc. or approved equal. Pumps shall be rated for operating conditions as follows:

# of pumps	2
GPM	80
TDH - feet	66
HP	10
RPM	1750
Solids	4"
Discharge	4'
Volts	230/460
Phase	3

631.02.2 - Pumping Casings. Shall be constructed of 25% chrome iron and shall conform to ASTM A-532 material, and shall be completely clear from suction to discharge without coming into contact with the impeller. All internal case clearances shall be equal to discharge diameter so that large diameter solids and long length or stringy solids will pass through the pump with the greatest handling efficiency. The impeller shall be of 100% recessed design, with wear plate and shall be mounted in such a manner as to allow solids which enter the suction opening to leave the pump with minimal impeller contact. The solids or fluids being pumped shall not have to enter impeller in order to discharge. Impeller and wear plate shall conform to ASTM A-532 material and shall be 25% chrome iron (no exception) with a minimum of 55 rockwell hardness. The impeller shall have 7 vanes, and encompass a lip on back shroud to increase the efficiency of the pump and allow impeller to have a "flywheel" effect. The impeller shall be attached to the shaft by a stainless steel bolt, stainless steel washer, stainless steel key, and Essco "lock-tite" applied to insure that impeller bolt will not back out if unit is operated backwards. Impeller shall be fastened to keyed motor shaft by means of a stainless steel threaded cap screw and washer. Before installation the impeller and wear plate shall be broken down and inspected by the engineer for compliance with the specifications.

631.02.3 - Motor Case. Motor case and end brackets shall be cast iron. The motor shaft shall be one piece 416 stainless steel through both bearings with proper length to connect directly to pump impeller. Motor shall contain class b insulation with Class F materials rated for continuous duty in 40 degree C liquid. Motor shall be sized so the nameplate horsepower is the actual continuous brake horsepower output without considering motor service factor. Motors shall be explosion proof containing

Underwriter's Approved Label.

Thrust bearing and radial bearing shall be anti-friction type ball bearings. Motor leads shall be joined to motor housing by the use of an epoxy mold in the motor end bracket. All exposed hardware shall be stainless steel. Motor shall utilize standard Nema T-frame electrical components.

At the drive end the motor shall have a separate inner and outer seal with an oil filled chamber between the seals to provide complete protection for the motor windings. Each mechanical seal shall be constructed of the following parts: #420 stainless steel spring, ceramic cup, carbon washer and Buna "N" bellows. A moisture sensing probe within the oil filled chamber shall be provided and connected to an alarm system, as shown on the drawings, to warn of impending seal failure. Overload protection of the thermal trip type shall be provided. "Quick trip" heater and motor thermal circuit shall be wired in series with starter coil.

Motor shall conform to the current issue of national electrical code, Section 501-5, Para. (D) and Section 501-8, Para. (A). All pumps, motors, fittings, accessories and controls shall be 100% American Made.

631.02.4 - Guide Rail Assembly. Furnish each pump with slide away coupling that are designed such that the pumping units can be removed from the wet well without entering the well or disconnecting the piping. The slide away coupling shall consist of a cast iron foot mounted discharge elbow with integral cast mounting base plate, sliding pump adapter, rail guides, lifting yoke and upper rail supports. All metal faces where movement can occur will be non-sparking. The slide away coupling is designed to conform to Underwriters Laboratory for use in Class I, Division I, Group D hazardous locations.

The guide rail pipes shall be 2" furnished by the contractor. Two guide rail pipes per pump are required.

631.02.5 Access Frame and Cover Specification: Access frames and covers shall have a 1/4" thick one-piece, mill finish, extruded aluminum frame, incorporating a continuous concrete anchor. Door panels shall be 1/4" aluminum diamond plate, reinforced to withstand a live load of 300 lbs. Psf. Doors shall open to 90 degrees and automatically lock with stainless steel hold open arms with aluminum release handles. Doors shall close flush with the frame lifting handles, hinges, hinges and all fastening hardware shall be stainless steel. Unit shall lock with a non-corrosive locking bar. Unit shall be guaranteed against defects in material and/or workmanship for a period of 10 years. They shall be single leaf with openings sizes per contract drawings, as manufacturer by Halliday Products, Inc. or approved equal

631.02.06 DISCHARGE PIPING: All piping shall be ductile iron flanged joint pipe, ANSI A 21.51 and all joints and fittings shall be Ductile Iron ANSI A 21.10.

All Ductile Iron Pipe and Fittings shall be coated outside with a standard bituminous coating and lined inside with a 16 mil. coal tar epoxy coating.

631.02.07 GATE VALVE: Gate valves shall be in accordance with AWWA C-500 Standards, iron body, bronze mounted, double disc, parallel seat, non-rising stem, flanged ends, handwheel operated and complete with bolts, gaskets, and coatings.

631.02.08 CHECK VALVE: Check valves shall be in accordance with AWWA Standards, iron body, bronze mounted, flanged ends, lever and weight operation and complete with bolts, gaskets, and coatings.

631.02.09 WET WELL: Concrete for the wet well shall be furnished in accordance with the applicable requirements of reference ASTM L 76, ASTM C443 and ASTM C 478.

631.02.10 SECURITY FENCE: The security fence shall be constructed using the materials and details shown on the contract drawings.

631.02.11 BOLTS, WASHERS, AND FASTENERS: All bolts, washers, and fasteners shall be high strength stainless steel meeting the requirements as set forth in ASTM-A 325. All bolted connections shall have threads excluded from the shear plane.

631.02.12 FORCE MAINS: All force mains shall be PVC Fluid-Tite Intergral Bell plastic pipe for sewer and shall meet the requirements of 160 PSI, SDR 26 pressure pipe, and shall meet the standard specifications as outlined in ANSI/ASTM D 2241-78. All sections shall be tested under a hydrostatic pressure of 100 pounds per square inch and shall not show leakage exceeding 10 gallons per inch of diameter per mile of pipe per 24 hours when so tested.

All fittings to be mechanical joint cast or ductile iron. A green metallic tape with the word "SEWER" printed in bold letters and at a maximum of 3 feet spacing on the tape shall be secured to the top side of the force main.

631.02.13 AIR AND VACUUM SEWER VALVE:

The air and vacuum valve shall be able to automatically exhaust large quantities of air during filling of a pipeline and allows air to re-enter pipeline during the draining or when a negative pressure occurs. The inlet and outlet of the valve shall have the same cross-section area. The float shall be guided by a synthetic rubber seal. The float shall be of all

stainless steel construction and capable of withstanding maximum system surge pressure without failure. The body and cover shall be concentrically located and of ductile iron and the valve internal parts shall be of stainless steel with Buna-N® rubber seat.

The Air and Vacuum Valve shall be manufactured per ANSI/AWWA C512-04 Series 35WW 2" x 1" with optional backwash kit from Cla-Val Newport Beach, CA, U.S.A. or approved equal

Specifications Sizes

2", 3", 4" NPT

4", 6" 8" flanged ANSI

Class 125 lb.

Class 250 lb.

Pressure Rating

150 psi & 300 psi ratings

**NOTE: SPECIFY WHEN
OPERATING PRESSURE
BELOW 10 PSI**

Materials

Body and Cover:

Ductile Iron ASTM A536

65-45-12

Float:

Stainless Steel

Internal Parts:

Stainless Steel

Seal:

Buna-N® Rubber

The valve shall be mounted on a 4" cast iron fitting installed in the force main. Special consideration should be given so that the valve is stable. The valve and appurtenances shall be installed in a 36" diameter concrete manhole with a Dewes DF-25(7) J.S. or Vulcan V-1115 Frame and cover.

The air and vacuum sewer valve assembly includes all the items described above plus any additional items required to install the assembly and make it functional.

SECTION 16050

PART 1 - BASIC ELECTRICAL MATERIALS AND METHODS

1.01 Related Work

- A. Section 16060 – Grounding and Bonding
- B. Section 16900 – Process Instrumentation and Control

1.02 ELECTRICAL SPECIFICATIONS: The electric supply will be 120/240 volts, three phase, four wire, 60 Hertz. The Contractor shall contact the power company prior to bidding and include in his bid the cost of labor and material necessary to supply the plant with electricity, including any cost which may be assessed by the power company for installation of power company furnished material. The Contractor shall coordinate all aspects of the construction concerning the electric service with the power company. The Approval Drawings shall include all details of the power company electric service and all associated equipment (to include all pole types and locations, switches, fuses, wire sizes and types, etc.) anywhere on the plant property.

1.03 TEMPORARY ELECTRIC SERVICE: The Temporary Electric Service for construction power shall be furnished, installed, and removed by the electrical contractor. Also, Contractor, shall make all necessary arrangements with the power company for metering and billing and provide for these charges and cost in his bid.

1.04 TESTING AND INSPECTIONS: Contractor shall assist in making periodic inspections or tests as required by the Engineer. When required, Contractor shall provide the assistance of foreman and qualified craftsmen for reasonable duration of each test, etc. Cooperate with other Contractors in preventing premature operation of equipment like water process equipment, etc., which should be first run in presence of personnel responsible for each item.

After wiring is completed, the Contractor shall test for shorts and open circuits, intentional and unintentional grounds. All shorts, open circuits, and unintentional grounds shall be corrected.

1.05 GUARANTEE: Workmanship and materials shall be guaranteed for period of one year from date of official acceptance of contract. Be responsible for any adjustments, replacements and corrections necessary to restore project to first-class condition if deficiency is due to faulty workmanship or materials.

1.06 CONDUIT SYSTEMS: Use galvanized or sheradized steel conduit in damp locations, exterior walls, exposed out of doors or when subject to mechanical

damage after installation. Underground runs, use PVC, schedule 80 incased in concrete per NEMA standards and buried at required depth per NEMA standards. Provide electrical line red warning tape buried six (6) inches above conduit run. Protect conduits against entry of debris; keep ends capped during construction; clear or replace obstructed conduits.

Size and install conduits so that conductors may be installed without damage or excessive strain, using NEC as a minimum standard. For rigid conduit use double lock nut and bushings. For conduits larger than 1", use grounding type insulation bushing. Entire conduit system shall provide a dependable path to ground. EMT fittings shall be watertight type, T&B 5100 series. Crimped or set screw types are not acceptable.

Ream ends after threading, make bends with an approved bending tool. Replace deformed bends or off-sets. Avoid hot water pipes, stay at least 3" from covering of hot pipes except as crossing, then at least 1".

- 1.07 PULL BOXES AND JUNCTION BOXES: Pull boxes shall be code gauge and size galvanized steel and shall be installed where accessible and in location shown on the drawings or where required to facilitate the easy pulling of wires. Boxes shall be sized properly for the conduits and wires entering them. In outdoor and process areas use weatherproof and corrosion resistant boxes.
- 1.08 OUTLET BOXES: On exposed conduit in process areas, use Crouse-Hinds No. FS or FD or other galvanized steel types. All boxes galvanized, or cadmium plated, or better.
- 1.09 CONDUCTORS AND GENERAL WIRING METHODS: Type THW 600-volt copper wire for general use and types THHN 600-volt copper for High Ambient Temperature; where Contractor sizes conduit based on conductor required, basis is type THW. Approved manufacturers, Triangle, General Cable, Collyer, National Electric Products, or approved equal. Size, type and trade name stamped permanently at regular intervals on all conductors. All wire shall be color coded.

Install wire in conduit after all work which may cause damage is completed. Powdered talc or other approved compound may be used as lubricant where necessary.

Make joints and splices in conductors with approved insulating type compression fittings, T&B, Sta-kon, or Buchanan splice caps. Wire-nuts are not acceptable.

1.10 GROUNDING AND BONDING REQUIREMENTS

In order to provide a safe and reliable system, all structures, piping, equipment and electrical services involved must be properly grounded and bonded to a properly sized and installed grounding electrode system.

All work will comply with every facet of the National Electric Code Article 250, current edition. Particular attention must be given to sections 250.56 and 250.58.

The article 250 requirement for a ground resistance of 25 ohms or less shall be considered as the minimum and a resistance of 4 ohms or less shall be the goal. This resistance will be measured with equipment using a three point resistance measurement and "fall of potential" system.

All motor control centers and control panels shall have as a minimum, a ground ring near the structure or building consisting of #2/0 bare copper and 10 foot long by 3/4" diameter copper clad ground rods. There will be at least three (3) ground rods spaced no more than twelve (12) feet apart to make a grounding "ring". All connections will be exothermic (Cadweld) performed by qualified personnel. All devices located near the structure or building shall be bonded to the ground ring.

Other structures will have a grounding system appropriate for the location per the National Electric Code article 250.

Conduit work, motors, panel boards and electrical equipment are to be effectively and permanently grounded. Feeder conduits shall provide a good path to system ground.

The grounding screw on all grounding type receptacles shall be securely grounded to the outlet box with lug and screw, or use self-grounding types.

Verify electrical continuity of all conduit runs and correct any discrepancies.

The Contractor shall be responsible for determining the extent of grounding and bonding requirements for equipment located at the site(s) covered under the contract(s) as listed herein. The Contractor shall provide for these charges, and cost in his bid.

- 1.11 EXCAVATION AND BACKFILLING: Excavate trenches for underground conduit or cable to required depth and width. After conduit or cable has been installed, inspected, and approved, backfill trench with earth free of trash, rock, brick and debris, and compact as required. Under slab, follow compaction rules for general work on this project. Underground workmanship applies under slab; depth can be reduced, but provide full and complete encasement. Bond conduit to any membrane passed through.
- 1.12 CLEANING: As required, clean all equipment or exposed material provided or

installed under this section. Protect from any normal use of paint, mortar, etc.

- 1.13 **WORKMANSHIP:** All work shall be done in a thorough, substantial, and workmanlike manner by competent workmen. Applicable rules of National Electric Code apply as minimum standard for this contract but do not replace or reduce any specific requirement herein.
- 1.14 **INTERFERENCES:** The drawings are generally diagrammatic. Cooperate with other trades so that interferences of conduit, equipment, piping, etc., will be avoided. If interference develops, refer promptly to Engineer for decision.

END OF SECTION

SECTION 16060
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This section specifies the general grounding and bonding requirements for electrical equipment and operations to provide a low impedance path for possible ground fault currents.
- B. "Grounding electrode system" refers to all electrodes required by NEC, as well as made, supplementary, and lightning protection system grounding electrodes. The terms "connect" and "bond" are used interchangeably in this specification and have the same meaning.

1.02 RELATED WORK

- C. Section 16050 – Electrical Material and Methods
- D. Section 16900 – Process Instrumentation and Control

1.03 SUBMITTALS

- A. Shop Drawings:
 - 1. Clearly present enough information to determine compliance with drawings and specifications.
 - 2. Include the location of system grounding electrode connections and the routing of aboveground and underground grounding electrode conductors.
- B. Test Reports: Provide certified test reports of ground resistance.
- C. Certifications: Two weeks prior to final inspection, submit four copies of the following to the Project Engineer:
 - 1. Certification that the materials and installation are in accordance with the drawings and specifications.
 - 2. Certification by the Contractor that the complete installation has been properly installed and tested.

1.05 APPLICABLE PUBLICATIONS

Publications listed below (including amendments, addenda, revisions, supplements, and errata) form a part of this specification to the extent referenced. Publications are referenced in the text by designation only.

- A. American Society for Testing and Materials (ASTM):
 - B1-07.....Standard Specification for Hard-Drawn Copper Wire
 - B3-07.....Standard Specification for Soft or Annealed Copper Wire
 - B8-04.....Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
- B. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - 81-1983.....IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System
 - C2-07.....National Electrical Safety Code
- C. National Fire Protection Association (NFPA):
 - 70-08.....National Electrical Code (NEC)
 - 99-2005.....Health Care Facilities
- D. Underwriters Laboratories, Inc. (UL):
 - 44-05.....Thermoset-Insulated Wires and Cables
 - 83-08.....Thermoplastic-Insulated Wires and Cables
 - 467-07.....Grounding and Bonding Equipment
 - 486A-486B-03.....Wire Connectors

PART 2 – PRODUCTS

2.01 GROUNDING AND BONDING CONDUCTORS

- A. Equipment grounding conductors shall be UL 44 or UL 83 insulated stranded copper, except that sizes No. 10 AWG [6 mm²] and smaller shall be solid copper. Insulation color shall be continuous green for all equipment grounding conductors, except that wire sizes No. 4 AWG [25 mm²] and larger shall be identified per NEC.
- B. Bonding conductors shall be ASTM B8 bare stranded copper, except that sizes No. 10 AWG [6 mm²] and smaller shall be ASTM B1 solid bare copper wire.
- C. Conductor sizes shall not be less than shown on the drawings, or not less than required by the NEC, whichever is greater.
- D. Isolated Power Systems (if applicable): Type XHHW-2 insulation with a dielectric constant of 3.5 or less.

2.02 GROUND RODS

- A. Steel or copper clad steel, 0.75 in [19 mm] diameter by 10 ft [30 M] long, conforming to UL 467.
- B. Quantity of rods shall be as required to obtain the specified ground resistance, as shown on the drawings.

2.03 CONCRETE ENCASED ELECTRODE

Concrete encased electrode shall be No. 4 AWG bare copper wire, installed per NEC.

2.04 GROUND CONNECTIONS

- A. Below Grade: Exothermic-welded type connectors.
- B. Above Grade:
 - 1. Bonding Jumpers: Compression-type connectors, using zinc-plated fasteners and external tooth lockwashers.
 - 2. Connection to Building Steel: Exothermic-welded type connectors.
 - 3. Ground Busbars: Two-hole compression type lugs, using tin-plated copper or copper alloy bolts and nuts.
 - 4. Rack and Cabinet Ground Bars: One-hole compression-type lugs, using zinc-plated or copper alloy fasteners.

2.05 EQUIPMENT RACK AND CABINET GROUND BARS

Provide solid copper ground bars designed for mounting on the framework of open or cabinet-enclosed equipment racks with minimum dimensions of 0.375 in [4 mm] thick x 0.75 in [19 mm] wide.

2.06 GROUND TERMINAL BLOCKS

At any equipment mounting location (e.g., backboards and hinged cover enclosures) where rack-type ground bars cannot be mounted, provide screw lug-type terminal blocks.

2.07 GROUNDING BUS

Pre-drilled rectangular copper bar with stand-off insulators, minimum 0.25 in [6.3 mm] thick x 4 in [100 mm] high in cross-section, length as shown on drawings, with 0.281 in [7.1 mm] holes spaced 1.125 in [28 mm] apart.

PART 3 – EXECUTION

3.01 GENERAL

- A. Ground in accordance with the NEC, as shown on drawings, and as specified herein.
- B. System Grounding:
 - 1. Secondary service neutrals: Ground at the supply side of the secondary disconnecting means and at the related transformers.

2. Separately derived systems (transformers downstream from the service entrance): Ground the secondary neutral.
- C. Equipment Grounding: Metallic structures, including ductwork and building steel, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, and other conductive items in close proximity with electrical circuits, shall be bonded and grounded.

3.02 INACCESSIBLE GROUNDING CONNECTIONS

Make grounding connections, which are normally buried or otherwise inaccessible (except connections for which access for periodic testing is required), by exothermic weld.

3.03 SECONDARY VOLTAGE EQUIPMENT AND CIRCUITS

- A. Main Bonding Jumper: Bond the secondary service neutral to the ground bus in the service equipment.
- B. Metallic Piping, Building Steel, and Supplemental Electrode(s):
 1. Provide a grounding electrode conductor sized per NEC between the service equipment ground bus and all metallic water pipe systems, building steel, and supplemental or made electrodes. Provide jumper insulating joints in the metallic piping. All connections to electrodes shall be made with fittings that conform to UL 467.
 2. Provide a supplemental ground electrode and bond to the grounding electrode system.
- C. Service Disconnect (Separate Individual Enclosure): Provide a ground bar bolted to the enclosure with lugs for connecting the various grounding conductors.
- D. Switchgear, Switchboards, Panelboards, Motor Control Centers and Panelboards, Engine-Generators, and Automatic Transfer Switches:
 1. Connect the various feeder equipment grounding conductors to the ground bus in the enclosure with suitable pressure connectors.
 2. For service entrance equipment, connect the grounding electrode conductor to the ground bus.
 3. Provide ground bars, bolted to the housing, with sufficient lugs to terminate the equipment grounding conductors.
 4. Connect metallic conduits that terminate without mechanical connection to the housing, by grounding bushings and grounding conductor to the equipment ground bus.
- E. Transformers:
 1. Exterior: Exterior transformers supplying interior service equipment shall have the neutral grounded at the transformer secondary. Provide a grounding electrode at the transformer.
 2. Separately derived systems (transformers downstream from service equipment): Ground the secondary neutral at the transformer. Provide a grounding electrode conductor from the transformer to

the nearest component of the grounding electrode system or to the ground bar at the service equipment.

3.04 RACEWAY

- A. Conduit Systems:
 - 1. Ground all metallic conduit systems. All metallic conduit systems shall contain an equipment grounding conductor.
 - 2. Non-metallic conduit systems, except non-metallic feeder conduits that carry a grounded conductor from exterior transformers to interior or building-mounted service entrance equipment, shall contain an equipment grounding conductor.
 - 3. Conduit that only contains a grounding conductor, and is provided for its mechanical protection, shall be bonded to that conductor at the entrance and exit from the conduit.
 - 4. Metallic conduits which terminate without mechanical connection to electrical equipment housing by means of locknut and bushings or adapters, shall be provided with grounding bushings. Connect bushings with a bare grounding conductor to the equipment ground bus.
- B. Feeders and Branch Circuits: Install equipment grounding conductors with all feeders and power and lighting branch circuits.
- C. Boxes, Cabinets, Enclosures, and Panelboards:
 - 1. Bond the equipment grounding conductor to each pullbox, junction box, outlet box, device box, cabinets, and other enclosures through which the conductor passes (except for special grounding systems for intensive care units and other critical units shown).
 - 2. Provide lugs in each box and enclosure for equipment grounding conductor termination.
- D. Wireway Systems:
 - 1. Bond the metallic structures of wireway to provide 100% electrical continuity throughout the wireway system, by connecting a No. 6 AWG [16 mm²] bonding jumper at all intermediate metallic enclosures and across all section junctions.
 - 2. Install insulated No. 6 AWG [16 mm²] bonding jumpers between the wireway system, bonded as required above, and the closest building ground at each end and approximately every 50 ft [16 M].
 - 3. Use insulated No. 6 AWG [16 mm²] bonding jumpers to ground or bond metallic wireway at each end for all intermediate metallic enclosures and across all section junctions.
 - 4. Use insulated No. 6 AWG [16 mm²] bonding jumpers to ground cable tray to column-mounted building ground plates (pads) at each end and approximately every 49 ft [15 M].
- E. Receptacles shall not be grounded through their mounting screws. Ground receptacles with a jumper from the receptacle green ground

terminal to the device box ground screw and a jumper to the branch circuit equipment grounding conductor.

- F. Ground lighting fixtures to the equipment grounding conductor of the wiring system when the green ground is provided; otherwise, ground the fixtures through the conduit systems. Fixtures connected with flexible conduit shall have a green ground wire included with the power wires from the fixture through the flexible conduit to the first outlet box.
- G. Fixed electrical appliances and equipment shall be provided with a ground lug for termination of the equipment grounding conductor.
- H. Raised Floors: Provide bonding of all raised floor components (if applicable).

3.05 OUTDOOR METALLIC FENCES AROUND ELECTRICAL EQUIPMENT

Fences shall be grounded with a ground rod at each fixed gate post and at each corner post. Drive ground rods until the top is 12 in [300 mm] below grade. Attach a No. 4 AWG [25 mm²] copper conductor by exothermic weld to the ground rods, and extend underground to the immediate vicinity of fence post. Lace the conductor vertically into 12 in [300 mm] of fence mesh and fasten by two approved bronze compression fittings, one to bond the wire to post and the other to bond the wire to fence. Each gate section shall be bonded to its gatepost by a 0.375 in x 1 in [3 mm x 25 mm] flexible, braided copper strap and ground post clamps. Clamps shall be of the anti-electrolysis type.

3.06 CORROSION INHIBITORS

When making ground and ground bonding connections, apply a corrosion inhibitor to all contact surfaces. Use corrosion inhibitor appropriate for protecting a connection between the metals used.

3.07 CONDUCTIVE PIPING

- A. Bond all conductive piping systems, interior and exterior, to the grounding electrode system. Bonding connections shall be made as close as practical to the equipment ground bus.
- B. In operating rooms and at intensive care and coronary care type beds, bond the gases and suction piping at the outlets directly to the room or patient ground bus.

3.08 LIGHTNING PROTECTION SYSTEM

Bond the lightning protection system to the electrical grounding electrode system.

3.09 ELECTRICAL ROOM GROUNDING

Building Earth Ground Busbars: Provide ground busbar and mounting hardware at each electrical room and connect to pigtail extensions of the building grounding ring.

3.10 EXTERIOR LIGHT POLES

Provide 20 ft [6.1 M] of No. 4 bare copper coiled at bottom of pole base excavation prior to pour, plus additional unspliced length in and above foundation as required to reach pole ground stud.

3.11 GROUND RESISTANCE

- A. Grounding system resistance to ground of 25 ohms or less shall be considered as the **minimum** and a resistance of 5 ohms or less shall be the goal. Make any modifications or additions to the grounding electrode system necessary for compliance without additional cost to the Customer. Final tests shall ensure that this requirement is met.
- B. Resistance of the grounding electrode system shall be measured using a four-terminal fall-of-potential method as defined in IEEE 81. Ground resistance measurements shall be made before the electrical distribution system is energized and shall be made in normally dry conditions not fewer than 48 hours after the last rainfall. Resistance measurements of separate grounding electrode systems shall be made before the systems are bonded together below grade. The combined resistance of separate systems may be used to meet the required resistance, but the specified number of electrodes must still be provided.
- C. Services at power company interface points shall comply with the power company ground resistance requirements.
- D. Below-grade connections shall be visually inspected by the Project Engineer prior to backfilling. The Contractor shall notify the Project Engineer 24 hours before the connections are ready for inspection.

3.12 GROUND ROD INSTALLATION

- A. For outdoor installations, drive each rod vertically in the earth, until top of rod is 24 in [609 mm] below final grade.
- B. For indoor installations, leave 4 in [100 mm] of rod exposed.
- C. Where permanently concealed ground connections are required, make the connections by the exothermic process, to form solid metal joints. Make accessible ground connections with mechanical pressure-type ground connectors.
- D. Where rock prevents the driving of vertical ground rods, install angled ground rods or grounding electrodes in horizontal trenches to achieve the specified resistance.

END OF SECTION

SECTION 16900

PROCESS INSTRUMENTATION AND CONTROL

PART 1 – GENERAL

1.01 WORK INCLUDED

The work covered under this section of the specifications includes the furnishing and installing of all instrumentation and control hereinafter specified to perform the intended function.

1.02 RELATED WORK

- E. Section 16050 – Electrical Material and Methods
- F. Section 16060 – Grounding and Bonding

PART 2 – PRODUCTS

2.01 SYSTEM SUPPLIER

All instrumentation and control systems equipment shall be furnished by a System Supplier. The System Supplier shall provide and be responsible for the proper operation of all Process Instrumentation and Controls and Control Panels. The System Supplier shall perform in house submittal drawings and assembly of products. Subcontracting submittal drawings and equipment assembly will not be permitted.

Substitutions of functions or equipment specified will not be acceptable.

The entire system shall be warranted for one year from date of substantial completion.

The Contractor shall assign full responsibility for the function operation of all new instrumentation and control systems to a System Supplier. This System Supplier shall be responsible for all coordination necessary in order to select, to furnish, to supervise installation and connections, to calibrate, and to place into operation all instrumentation and controls along with all other equipment and accessories as specified herein. The System Supplier shall be a licensed electrical contractor in the state of Mississippi.

The System Supplier shall be one of established favorable reputation who has designed and produced similar systems and components for a period of at least (10) ten years.

It shall be required of the System Supplier to execute and submit a guarantee to assume full responsibility as defined in Section 2.01, paragraph 'A' above. It is the duty of the Contractor to include this guarantee with his Bidding Documents.

Only the guarantee of the System Supplier whose name the Contractor has inserted in his Bidding Documents is required. Failure by a System Supplier to provide a written guarantee with his proposal shall be deemed by the Contractor as "NO BID" and that System Supplier will not be acceptable. The written guarantee shall be on the named System Supplier's letterhead and shall be signed by a responsible representative who will be primarily involved in the fulfillment of this guarantee. The written guarantee shall be stated as follows:

"... (Name of Single Source System Supplier)...guarantees that the proposal offered provides for complete compliance with all requirements of this section of the project specifications without exceptions to these specifications.

Full responsibility will be placed upon... (Name of Single Source System Supplier)...for all coordination necessary to select, to furnish, to supervise installation and connections, to calibrate, and to place into operation Process Instrumentation and Controls, Control Panels, and all other equipment and accessories needed to provide a complete operating system to comply with requirements of this section of the project specifications.

... (Name of Single Source System Supplier)... guarantees to provide all submittal drawings, instruction manuals, and qualified personnel for specified field services and training, all as defined within this section of the project specifications."

... (Name of Single Source System Supplier)... is a licensed electrical contractor in the state of Mississippi; Certificate of Responsibility No. _____, name of qualifying party _____;

Guarantee on system function and equipment shall be one (1) year from date of substantial completion or partial acceptance.

2.02 SUBMITTAL DRAWINGS

- A. Descriptive literature and drawings for equipment and systems being furnished under this section shall be included in two submittals as a maximum. If two submittals are made, the first shall include all primary devices, transmitters, sensors, and field mounted equipment. The second submittal will include the balance of the submittal required. The submittal shall include as a minimum, equipment specifications,

dimensional drawings, flow and other calculations, schematic drawings of each and every system within the complete offering, and such other information requested by the Engineer or considered necessary to the proper installation of the equipment. Furnish submittals in a Bound Booklet Form 8.5" X 11". No sheets shall be larger than 8.5" X 11". Foldout larger sheets will not be acceptable. This submittal shall include coordinated information and drawings for all items that the Single Source System Supplier is required to furnish under this section of the specifications, all in one integrated and coordinated manual. Each item of a submittal shall carry the appropriate title and be indexed against the appropriate specification item.

- B. A quantity of four (4) sets of submittals shall be furnished for the Engineer's approval.

2.03 INSTRUCTION MANUALS

Prior to 65% of the value of job completion, System Supplier shall furnish two (2) copies to the Engineer of all descriptive matter and complete system operation instruction manuals in separate indexed binders coordinated with the equipment that is furnished and installed for approval. System Supplier shall incorporate Engineer's comments and resubmit for approval within thirty (30) days of receipt of Engineer's comments. Once final approval is obtained, System Supplier shall furnish two (2) to the Engineer.

2.04 RELATED SYSTEM COMPONENTS

The attention of the System Supplier is called to sections concerned with electrical work, chemical feeders, valves, piping, etc., and such other devices not specified under this section, but related to it.

PART 3 - EXECUTION

3.01 ENGINEERING SUPERVISION

- C. The services of a qualified representative of the selected Single Source System Supplier shall be provided to inspect the completed installation, suggest all adjustments necessary to place the system in proper operation, and instruct operating personnel in the care and operation of the equipment furnished. A minimum of one (1) day and one (1) trip start-up service and training operating personnel shall be included. The services shall be furnished by the Contractor as a part of the work included under this section of the specifications.
- D. The System Supplier shall show satisfactory evidence that he maintains, a fully equipped factory organization capable of furnishing adequate service

for the equipment furnished, included replacement parts. Suppliers employing outside organizations for "ON CALL" service shall not be considered.

3.02 GENERAL INSTALLATION

- E. Installation of instrumentation and controls shall be in strict compliance with the manufacturer's instruction. The locations of these items as shown on the Contract Drawings are approximate only. Exact locations shall be as approved by the Engineer during construction. It is the duty of the Contractor to obtain, in the field, all relevant information required for proper placement of instrumentation and controls. In the case of interference with other work, proceed as instructed by the Engineer and provide all materials and labor required to prevent construction delays.
- F. Execution of the installation shall be in full accordance with codes and local rulings. The Contractor shall be responsible for any expenses that are a result of work performed contrary to said codes and regulations.
- G. The System Supplier shall coordinate with the Contractor the installation, the location of process equipment, and connections of process equipment to related equipment panels, subject to the Engineer's approval. The equipment being furnished with electrical controls or instrumentation must be submitted to the System Supplier for approval and coordination with all other control and instrumentation on this project. This engineer will not approve any equipment submittal until this coordination has been accomplished.

3.03 SPARE PARTS

- H. Provide the following spare parts packaged for long-term storage and delivered to the owner.

<u>QTY.</u>	<u>MODEL NO.</u>	<u>DESCRIPTION</u>
1	DC	Duplex Pump Controller
1	MM	Motor Current Monitor
1	SP	Control Voltage Surge Protector
1	AP	Antenna Protector
1	UPS	Uninterruptible Power Supply

- I. The System Supplier shall maintain an inventory at his facility of at least one (1) part of each type furnished on this project. These parts shall be available for delivery to the owner in a maximum of twenty-four (24) hours.

3.04 DELIVERY AND HANDLING

After delivery to the jobsite, the Contractor shall store the control panel off of the ground in a dry location until such time as it is mounted and supplied with electrical service. The contractor shall also insure that the pump power and control cords, as well as control floats, are protected from submergence until they are properly installed and sealed.

3.05 CONTROL PANEL STAND (when required)

Each control panel stand shall be fabricated per the detail indicated in the plans. Control panel stand legs shall be cemented into the ground a minimum of three feet (3') deep. The control panel shall be bolted at all four corners to the control panel stand with stainless steel hardware. Control panels shall be installed following manufacturer's instructions properly leveled. When installed, the bottom of the control panel shall be approximately four feet (4') above finished grade elevation.

PART 4 - CONTROL PANEL SPECIFICATIONS

4.01 GENERAL

- A. Enclosure shall be constructed of a minimum 16 gauge, galvanized steel with stainless steel, quarter turn, quick-release latching mechanisms and a padlocking hasp. Enclosure shall be factory painted with white polyester powder paint inside and out over pretreated surfaces. The enclosure shall be rated NEMA Type 3R and manufactured by Hoffman, Electromate or approved equal. Enclosure backplate shall be a minimum of 12-gauge steel, finished with white polyester powder paint or a conductive, corrosion-resistant coating.
- B. All power and control wires shall be stranded copper type MTW. All wiring shall be in covered plastic wireway.
- C. All points necessary for external connection in the controller, whether power or control, shall be wired to a terminal strip located at the top or bottom of the enclosure as directed by the engineer. The terminal strip shall be permanently marked with the same designation as the wire connected to it.
- D. All power and control wires shall be marked at both ends using self-adhering wire markers. No two wires having different functions within the control panel shall have the same markings.
- E. All circuit breakers, starters, and other control devices mounted within the controller panel shall be labeled for identification both within the panel and on the wiring schematic with corresponding designations.

- F. Control power shall be 120 volts and shall be protected by a correctly sized circuit breaker. If required, provide a properly sized control power transformer with primary over current protection.
- G. Each starter shall be provided with overload protection in all three phases and each individual starter shall have phase failure protection.
- H. All selector switches, pilot lights and control devices shall be visible and operable from the Controller exterior door or an interior deadfront panel when required. The deadfront panel shall be constructed of anodized aluminum and shall have a continuous aluminum hinge. An anodized aluminum deadfront shall be utilized when the Controller environment is not conducive to exposed controls or as specified on drawings.
- I. All approval drawings shall be prepared per J.I.C. standards for engineers review prior to any fabrication of control equipment. The Controller shall be produced by a UL 508 listed shop. Proof of label availability shall be submitted with above drawing.
- J. The controller manufacturer shall provide a written warranty with approval drawings covering all Control materials and parts furnished for a period ending one year after final acceptance of the project. This warranty shall cover all material replacement, all labor, and all travel expenses.
- K. The controller manufacturer shall show satisfactory evidence that he maintains a fully equipped factory organization capable of furnishing adequate service for the equipment furnished, including replacement parts within a 150 mile radius of the job site. Suppliers employing outside organizations for "ON CALL" service shall not be considered.
- L. The quality establishing brand for the control panel(s) shall be that as manufactured by Control Systems, Inc. of Jackson, MS.

4.02 DUPLEX PUMP STATION CONTROL PANEL

- A. SERVICE ENTRANCE: The control panel shall be designed for 120/240-volt, three-phase, four-wire power. The control panel shall be rated NEMA 3R.
- B. MAIN BREAKER: Provide a properly sized Main Breaker. In addition, provide a through the door operator mounted on the interior deadfront. The operator shall prevent the deadfront from being opened while the breaker is in the "ON" position.
- C. POWER DISTRIBUTION BLOCKS: Provide properly sized Power

Distribution Block(s) (PDB), as required for the control panel. Power distribution blocks shall be manufactured by Marathon, Square D, or approved equal.

- D. **SERVICE ENTRANCE SURGE PROTECTION DEVICE:** Provide a service entrance rated Type 2, AC power distribution Surge Protection Device (SPD), per Component Specifications, designed to protect all types of loads fed from distribution panels, branch panels and/or individual equipment panels. Units shall be UL listed and shall bear a UL label. Surge Protection Device shall be rated for 160kA per phase and 80kA per mode.
- E. **PHASE/POWER MONITOR:** Provide a service entrance Power Monitor (PM), per Component Specifications. During power monitor failure detection, no three phase motors shall be allowed to operate.
- F. **LIFT STATION PUMPS NO.1 AND NO.2:** Provide a combination circuit breaker and Solid State Starter (SSS), per Component Specifications, for each pump. The Solid State Starter shall come complete with a shorting contactor, overload protection, and shall have a programmable soft start and soft stop feature. Starter shall be programmed to soft start and soft stop the motor. Acceptable soft start starter manufacturers shall be Allen Bradley model SMC-Flex, Siemens model Sirius, or approved equal. Solid state starter shall be sized for the type required by the servicing power company and for the actual motor horsepower. The actual horsepower may differ than that indicated on drawing. In addition, provide the following additional equipment and controls:
 - 1. Provide a Duplex Pump Controller with built-in remote telemetry unit and lift station analyzer (DC1-2), per Component Specifications. The duplex pump controller shall include all auxiliary modules required to transmit all pump input/output data signals to the existing City of Hattiesburg office site CTU and SCADA system computer. In the automatic mode, the Duplex Pump Controller shall receive stop and start commands based on the level in the pump station wet well as sensed by the float switches (F), as described below in Part 5.
 - 2. Provide a float switch input indicator and test module with improper input sequence indicator and controls (FT1-2), per Component Specifications.
 - 3. Provide Motor Monitors (MM-1 and MM-2) complete with properly sized Current Transformer, both per Component Specifications. The Motor Monitor shall provide a positive run signal, monitor motor running current, and indicate motor running time and motor full load running amperes. In addition, the motor monitor shall

come complete with high and low amperes set points for the pump. The pump motor current shall be transferred to the CTU and displayed on the SCADA system computer via the duplex pump controller, as described above.

- G. **DUPLEX RECEPTACLE:** Provide a 120V, 20 amp, duplex receptacle mounted on the backplate of the controller enclosure for programming and diagnostic equipment use. Receptacle shall come complete with handy box.
- H. **POWER SUPPLY:** Provide a Power Supply (DPS), per component specifications. The power supply shall provide 13.5V DC for the Radio Modem Transceiver and Current Monitor.
- I. **UNINTERRUPTIBLE POWER SUPPLY:** Provide an Uninterruptible Power Supply (UPS), per Component Specifications. The unit shall be a 12V DC battery charger with 24V DC auxiliary power output option if required. In Addition, provide one (1) 12V DC 12 Ah Backup Battery (BAT) for the system in the event of a power failure.
- J. **RADIO ANTENNA:** Provide a Radio Antenna (ANT), per Component Specifications. Radio Antenna shall be Omni or Yagi type unit with gain as required for signal strength. The antenna shall be connected to the radio (RMT), with RG/8U low loss coaxial cable. In addition, a coaxial type Antenna Protector (AP), also per Component Specifications, shall be provided for connection of coaxial cable to the control panel enclosure.
- K. **RADIO MODEM TRANSCEIVER:** Provide a Radio Modem Transceiver (RMT), per Component Specifications and meeting the requirement of FCC Part 90. The RMT shall include built-in radio diagnostics capable of reporting specific unit conditions including programming, link testing, temperature, supply voltage, and Received Signal Strength Intensity (RSSI). Diagnostic data shall be capable of communication online with each transmission with no interruption in the application and with minimum overhead. All electrical connections to the RMT shall be plug-in type for ease of repair.
- L. **BRANCH FEEDER BREAKERS:** Provide the following 120-volt single pole circuit breakers.
 - 1. 20 Amp, 1 pole for Control Power
 - 2. 20 Amp, 1 pole for GFI Weatherproof Duplex Receptacle
- A. **CONTROL POWER SURGE PROTECTOR:** Provide an in-line (series) 120 volt, single-phase, 20A continuous power Surge Protection Device (SPD),

per Component Specifications, designed to protect all of the loads fed from the control power circuit.

- B. **GROUND FAULT INTERRUPTER RECEPTACLE:** Provide a 120 Volt, 15 amp, Weatherproof Duplex GFCI Receptacle mounted on the side of enclosure for electrical hand tool use. Receptacle shall come complete with a weatherproof cover. Cover shall be UL listed for wet locations, with cover closed, and shall be constructed of tough plastic that is resistant to high impact and sunlight. In addition, the cover shall be non-corrosive, non-conductive and protect against rain, snow and ice.
- C. **COMMON ALARM LIGHT:** Provide a weatherproof exterior Alarm Light (AL), per Component Specifications, with red Lexan lens and mounted on the side of building where shown on plans or as directed by the project engineer. The alarm light shall burn dim and steady during normal conditions to indicate electrical power "ON" and lamp good. During any alarm condition, the alarm light shall flash brightly.

PART 5 – FIELD INSTRUMENTATION, CONTROLS, AND MODIFICATIONS

- 5.01 **CENTRAL COMPUTER MODIFICATIONS:** Upon installation of radio telemetry and current monitoring equipment, necessary modifications shall be made to the existing central computer and associated equipment to incorporate all existing and new data to be transmitted from the Dogwood Drive Duplex Pump Station. All data installed on this project shall be incorporated into the existing City of Hattiesburg central telemetry unit (CTU) and SCADA system to provide the operator with graphical interface, monitoring and control as well as provide records of appropriate system transactions. The control system supplier shall be responsible for coordinating all work with the City of Hattiesburg and the project Engineer.
- 5.02 Provide a float control system for the pumping station to operate the pumps. Provide High Level, Lead Start, Lag Start, All Stop Float Switches (F), and Low Water Alarm per Component Specifications, mounted in wetwell. Float switches shall be set at operating levels per Project Engineers direction. The float switch shall be a direct acting switch and contain a single pole mercury switch, which actuates when the longitudinal axis of the float is horizontal and deactuates when the liquid level falls 1" below the actuation elevation. The float shall have a chemical resistant polypropylene casing with a firmly bonded electrical cable protruding. One end of the cable shall be permanently connected to the enclosed mercury switch and the entire assembly shall be capsulated to form a completely watertight and impact resistance unit. Provide the following float switches and control points:
 - A. High Level Alarm
 - B. Lag Start
 - C. Lead Start

- D. All Stop
- E. Low Water Alarm

PART 6 – RTU SOFTWARE, PROGRAMMING AND LICENSING

- 6.01 COMMUNICATIONS PROTOCOL:** All CTU/RTU=s shall include driver software for industry standard protocols including MODBUS and Bricknet. The Resource Management Facilities communications system shall be based upon an open, nonproprietary protocol. The protocol shall support “store and forward” as well as “peer-to-peer” communications. All protocols must be submitted with complete documentation including but not limited to all data structures and algorithms (such as CRC calculations) required to interface future equipment to the telemetry network. Documentation that the ENGINEER deems insufficient shall disqualify the protocol. The ENGINEER and OWNER reserve the right to disqualify the facilities supplier=s bid based upon a disqualified protocol. **No proprietary closed communication protocols shall be accepted.**
- 6.02 PROGRAMMING LANGUAGE SOFTWARE:** The CTU/RTU programming language software shall be an industry standard so that future expansion and improvements may be economically accommodated. The programming language shall be Microsoft C/C++. Programming shall provide the specific resource management functions and capabilities for the CTU/RTU modules.
- 6.03 LICENSING:** An application must be submitted to the Federal Communications Commission (FCC) in the name of the system owner and a license issued for the operation of VHF band radio data frequency. All application fees and processing fees for this purpose shall be the responsibility of the contractor.
- 6.04 RADIO PATH SURVEY:** Provide a radio path survey to measure radio signal strength and to properly design transceivers, antennas, masts, and any other equipment necessary for data radio communication between each CTU/RTU site. Contractor shall provide radio repeaters as necessary for this purpose. The Owner=s existing facilities will be made available for installation of this equipment including 120V AC power if already existing. To assure reliable radio data communication, the minimum acceptable signal strength between RMT sites necessary for communication links shall be 85 dB. Provide a Radio Path Survey Report to the {Engineer including all measured field data, survey equipment used, site location including latitude and longitude of all sites, and recommended radio equipment and antennas necessary to achieve the required radio signal strength. This report shall be provided to the engineer for review prior to the installation of any radio equipment. Acceptance of the Radio Path Survey Report shall in no way absolve the Contractor from the responsibility for provision of reliable radio communication system required. Apply for, secure, and provide FCC license(s) in the owner=s name for VHF radio frequency as required for data radio communication. All application fees and processing fees for this purpose shall be the responsibility of the Contractor.

PART 7 – COMPONENT SPECIFICATIONS

7.01 SERVICE ENTRANCE SURGE PROTECTION DEVICE (SPD): The SPD shall be mounted in the control panel / motor control center section adjacent to the Main Breaker. The SPD is connected to the main bus in the panel with conductors of size and of no greater length than indicated in the Surge Protection Device manufacturer's installation instructions. SPD shall be a Type 2 device ideal for distribution panels, branch panels and critical loads.

A. SPD shall provide transient voltage surge suppression and electrical high frequency noise filtering. Unit is designed for parallel connection to the main bus. SPD unit uses selenium cells and metal oxide varistors to achieve its performance. Products using gas tubes, spark gaps, silicon avalanche diodes or other components, which under failed conditions would cause system failure, are not acceptable.

B. Manufacturer qualifications: The product of a manufacturer engaged in the commercial design and manufacture of the type of product described herein for a minimum five (5) years.

C. Standards: Product complies with the requirements of the following:

1. cUL
2. CE Compliant
3. UL 1449 3rd Edition
4. UL 1283 Listed
5. NEMA LS1 Compliance

A. Operating Voltage: 120/240 volts, 3-phase, 4-wire + ground

B. Maximum Continuous Operating Voltage (MCOV): greater than 115 percent of nominal voltage for all products. All suppression filter systems comply with NEMA LS 1.

C. Frequency: Operating frequency range of 47 – 64 Hertz.

D. Protection Modes: all phases – phase to ground; all phases – phase to neutral; all phases – phase to phase; and neutral to ground.

E. Rated Single Pulse Surge Current Capacity: at rated voltage, no less than:

160,000 A	Line to Line
80,000 A	Line to Neutral
80,000 A	Line to Ground

80,000 A Neutral to Ground

- F. Tested Single Pulse Surge Current Capacity: Filter system is designed to withstand a single pulse surge current up to 150 percent of the design rating and tested at an independent test laboratory. In the absence of testing facilities capable of such testing, testing of individual components or sub-assemblies within a mode is accepted by ANSI C62.41-1991; the testing includes a Category C1 surge test followed by a second Category C1 test. The test results demonstrate the unit does not degrade by more than 10 percent from the initial test.
- G. Clamping Voltage: Suppression filter system clamping voltages are in compliance NEMA LS1-1992.
- H. High Frequency Filter: EMI-RFI noise rejection or attenuation values comply with test and evaluation procedures of NEMA LS1-1992.
- I. Overcurrent Protection: Unit includes coordinated UL 489 or UL 198 listed or recognized overcurrent protection devices.
- J. Documentation: Provide product data including equipment manual, electrical and mechanical drawings indicated dimensions weights, mounting provisions, connection details and layout diagram, certified tests of UL1449 Listing/Clamp Voltages and NEMA LS1 compliance, certified single pulse surge current capacity testing, and minimum repetitive surge current capacity testing.
- K. Status Indicators: Unit has long-life, solid state, externally visible status indicators that monitor the on-line status of each phase of the unit.
- L. Warranty: 25-years Unlimited Free Replacement for service entrance Surge Protection Device.
- M. TVSS system shall be equal to SSI SSMA163D1 for service entrance.

TAG
SPD

SERVICE
Service Entrance Surge Protection Device

- 7.02 PHASE FAILURE/UNBALANCE/UNDER VOLTAGE/REVERSAL RELAY: Phase monitor shall be designed to protect 3-phase motors regardless of size and for use with 200 – 240 or 425 – 485 VAC, 50 to 60 Hz motors to prevent damage. The unit shall constantly monitor the three phase voltages to detect harmful power line conditions, caused by single phasing, low voltage, phase reversal and voltage unbalance. When a harmful condition is detected, an output relay is deactivated after a trip delay. The output relay shall reactivate after power line conditions return to an acceptable level for the specified Restart Delay. The trip

delay shall prevent nuisance tripping due to rapidly fluctuating power line conditions. Phase monitor shall have the following features and functions.

- A. Under Voltage:
 - Trip: -15% of setting for 230V (-10% for 480V)
 - Reset: -12% of setting for 230V (-8% for 480V)
 - B. Over Voltage:
 - Trip: -15% of setting for 230V (-10% for 480V)
 - Reset: -12% of setting for 230V (-8% for 480V)
 - C. Phase Unbalance:
 - Trip: 7% with 5 second trip delay
 - 15% with 1 second trip delay
 - Reset: 6%
 - D. Trip Delay:
 - 5 seconds (delay is reduced to 1 second if Phase Unbalance is 15% or greater)
 - E. Reset Delay:
 - 2 seconds standard (5-60 seconds optional)
 - F. Voltage Range: 200V to 240V or 425V to 525V
 - G. Output Rating: 10A resistive @ 240VAC
 - 6A resistive @ 240VAC
 - H. Operating Temp: -40°C to +50°C, -38°F to +122°F
 - I. Storage Temp: -45°C to +85°C, -47°F to +185°F
 - J. Enclosure: Lexan, surface mount
 - K. UL and cUL listed
- | | |
|------------|---------------------------------|
| <u>TAG</u> | <u>SERVICE</u> |
| PM | Electrical System Power Monitor |

7.03 SOLID STATE STARTER: Provide a solid-state starter, including the following features for each motor.

A. GENERAL

This specification describes the requirements for a solid-state motor controller to provide voltage ramp soft starting of a standard AC induction motor. These controllers shall provide a superior alternative to other types of reduced voltage starting such as autotransformer, wye-delta, primary resistor, and part winding. Provide smooth stepless acceleration, reduced inrush current, smaller physical size, and higher duty cycle capability.

B. QUALIFICATIONS

1. Manufacturer

- a. The manufacturer shall have a minimum of fifteen (15) years experience in the manufacturer of solid state reduced voltage

controllers.

b. The approved manufacturers are:

2. Support

- a. The manufacturer shall maintain factory trained and authorized service facilities within one-hundred (100) miles of the project and shall have a demonstrated record of service for at least the previous ten (10) years.
- b. Support personnel are to be direct employees of the manufacturer.

3. Certification

- a. To insure all quality and corrective action procedures are documented and implemented all manufacturing locations shall be certified to the ISO-9001 Series of Quality Standards.
- b. Third party manufacturers and brand labeling shall not be allowed.

C. REFERENCES

1. The controller shall be designed to meet the applicable requirements of:

- a. EN
- b. IEC
- c. cULus
- d. NEMA
- e. IEEE
- f. VDE

2. These standards shall include:

- a. Creep distances and clearances 600V (UL/CSA) and 500V (IEC)
- b. Power terminal markings per EN 50005 and EN 60947
- c. Dielectric withstand per UL508 and IEC947
- d. Noise and radio frequency (RF) immunity per NEMA ICSA1-109
- e. Surge withstand per IEEE587 and IEC 801-5

D. WARRANTY

1. The manufacturer shall provide their standard parts warranty for

eighteen (18) months from the date of shipment or twelve (12) months from the date of being energized, whichever occurs first.

2. This warranty applies only to stand alone solid state reduced voltage controllers.

E. RATINGS

1. The solid state reduced voltage controller shall accept an input voltage of 240 VAC, three-phase plus or minus ten percent (+/-10%).
2. Environmental Ratings
 - a. Storage ambient temperature range: -20 to 75 degrees C.
 - b. Operating ambient temperature range: 0 to 50 degrees C.
 - c. The relative humidity range: 5% to 95% non-condensing.
 - d. Operating elevation: up to 2000 Meters.
3. Definitions
 - a. The Solid State Reduced Voltage Controller Unit shall refer to the actual controller unit that will be mounted within the specified enclosure.
 - b. The Solid State Reduced Voltage Controller System shall refer to the controller unit and all items specified under Controller System Options.

F. SOLID STATE REDUCED VOLTAGE CONTROLLER UNIT DESIGN

1. The open-type controller device shall be modular, consisting of a power structure and a logic component.
2. Power Structure
 - a. The power structure shall include an SCR bypass.
 - b. The power structure shall include a built-in overload.
 - c. For ratings 1 Amps to 1250 Amps, the power structure shall consist of three power poles with integral heatsinks.
 - d. Power poles are to be modular in design that each is easily replaceable.
 - e. Back-to-back SCR pairs shall be the only power switching semiconductor means acceptable. Diode-SCR (Silicone Controlled Rectifier) combinations shall not be acceptable.
 - f. SCRs shall have the following minimum repetitive peak inverse voltage ratings.

- i. 1400V for units rated 200 to 480V
- ii. 1600V for units rated 200 to 600V
- iii. 1800V for units rated 230 to 690V

3. Logic Component

- a. The logic component shall be a self-contained control module, compatible with the full range of power structures. The control module shall mount directly to the power structure.
- b. The control module shall provide digital microprocessor control and supervision of all controller operation, including pulse firing of the SCRs.
- c. The control module shall consist of the following:
 - i. Self-tuning power supply accepting control power input from 100 to 240 VAC or 24V AC/DC, 50/60 Hz.
 - ii. Logic control circuitry incorporating a latch circuit for three-wire control.
 - iii. SCR firing circuitry that incorporates an RC snubber network to prevent false firing.
 - iv. Input / output circuitry
 - v. Digital programming keypad.
 - vi. Backlit LCD display.
 - vii. DPI communication port.
- d. The control module shall be easily removed from the power structure, without the need to disassemble associated printed circuit board assemblies.
- e. The control terminals shall be easily accessible and located on the front top of the device. The terminals shall be UL rated for 300 Volts, 10 Amps maximum and accept a maximum of two wires rated number 18 to number 14 AWG.

G. CONTROLLER UNIT FEATURES

- 1. Starting Modes: The controller shall provide the following starting modes as standard.

- a. **Soft Start with Selectable Kickstart**
 - i. Programmable initial torque value of 0 to 90 percent of locked rotor torque.
 - ii. Programmable acceleration ramp time from 0 to 30 seconds.
 - iii. A selectable kickstart, or boost, shall be provided at the beginning of the voltage ramp. The kickstart shall provide a current pulse of 550 percent of the full load current. The kickstart time shall be adjustable from 0 to 2 seconds.
- b. **Current Limit Start**
 - i. Provides means of limiting the maximum starting current.
 - ii. Programmable for 50 to 600 percent of full load current
- g. **Full Voltage Start**
 - i. Provides across the line starting.
 - ii. Ramp time shall be less than 0.25 seconds.
- h. **Dual Ramp Start**
 - i. Provides two separate soft start profiles with separately adjustable ramp times and initial torque settings.
 - ii. Programmable acceleration times from 0 to 30 seconds
 - iii. Programmable initial torque values from 0 to 90 percent of locked rotor torque.
- i. **Soft Stop**
 - ii. The Soft Stop option shall provide a voltage ramp-down for an extended motor stopping time
 - iii. Soft Stop shall be initiated by a Stop input. A coast-to-rest stop shall still be possible with separate stop input.
 - iv. Programmable voltage ramp down time from 0 to 60 seconds.
 - v. The load shall stop when the motor voltage drops to a point where the load torque is greater than the motor torque.

j. Preset Slow Speed

- i. Provides a slow speed for applications requiring a slow speed
- ii. The Present Slow Speed shall provide two jog speeds in the forward direction: high (15 percent of base speed) and low (7 percent of base speed).
- iii. The Present Slow Speed option shall provide two jog speeds in the reverse direction: high (20 percent of base speed) and low (10 percent of base speed). Reverse operating of the motor shall be available in the jog mode without use of reversing contractor.
- iv. The starting current for the slow speed operation shall be user adjustable from 0 to 450 percent of the motor's full load current rating.
- v. The running current for the slow speed operation shall be user adjustable from 0 to 450 percent of the motor's full load current rating.

2. The controller shall provide options for the following mutually exclusive starting and stopping modes. Refer to the system specifications for the option (if any) required.

a. Pump Control

- i. The Pump Control option shall be implemented to provide closed loop control of a motor to match the specific torque requirements of centrifugal pumps for both starting and stopping. This shall aid in eliminating the phenomena commonly referred to as "water hammer." Methods utilizing Soft Start with Soft Stop shall not be acceptable.
- ii. Closed loop control shall be achieved without using external sensors or feedback devices.
- iii. Pump Stop shall be initiated by a dedicated Pump Stop input. A coast-to-rest shall still be possible with a separate stop input.
- iv. Programmable starting time from 0 to 30 seconds.
- v. Programmable stopping time from 0 to 120 seconds.

3. LCD Display

- a. An alphanumeric, backlit LCD display shall be provided for controller set-up, diagnostics, status and monitoring. The

display shall be four-line, 16 characters minimum.

- b. Digital parameter adjustment shall be provided through a keypad. Analog potentiometer adjustments are not acceptable.

4. Overload Protection

- a. Shall meet applicable standards as a motor thermal protective device.
- b. Shall utilize three-phase current sensing. The use of two current transformers shall be unacceptable.
- c. Selectable trip classes of 10, 15, 20 and 30 shall be provided as standard.
- d. Electronic thermal memory shall provide enhanced motor protection.

5. Digital I/O

- a. A minimum of four (4) auxiliary contacts shall be provided for customer use.
- b. The contacts shall be rated for 240 Volts AC maximum.
- c. Contact configuration shall be programmable and contain the following configurations:
 - i. Normal Operation (N.O. or N.C.)
 - ii. Up-to-Speed Indication (N.O. or N.C.)
 - iii. External Bypass
 - iv. Fault Indication (N.O. or N.C.)
 - v. Alarm Indication (N.O. or N.C.)
 - vi. Network Controlled Output (N.O. or N.C.)

6. DPI Serial Communication Port

- a. A DPI serial communication port shall be provided as standard.
- b. Optional communication protocol interface modules shall be available for connection to Ethernet, Remote I/O, DH485, ControlNet, DeviceNet and RS232/422/485.

7. Monitoring

- a. The controller shall provide the following monitoring functions indicated through the LCD display.
 - i. Three-phase current

- ii. Three-phase voltage
- iii. Power in kW
- iv. Power usage in kWh or mWh
- v. Power factor
- vi. Motor thermal capacity usage
- vii. Elapsed time

8. Protection and Diagnostics

- a. The following protection shall be provided as standard with the controller.
 - i. Pre-start line fault advising of shorted SCR or missing load connection with phase indication.
 - ii. Running line fault advising power loss, shorted SCR or missing load connection.
 - iii. Over temperature
 - iv. Open Gate with phase indication
- b. The following programmable protection shall be provided as standard with the controller.
 - i. Underload
 - ii. Undervoltage
 - iii. Overload
 - iv. Overvoltage
 - v. Voltage Unbalance
 - vi. Excessive Starts Per Hour
 - vii. Phase Reversal
 - viii. Stall
 - ix. Jam
- c. When fault conditions are detected, the controller shall inhibit starting or shut down SCR pulse firing.
- d. Fault diagnostics shall be indicated in descriptive text on the LCD display. The exclusive use of fault codes is unacceptable.
- e. An auxiliary contact that is programmable for fault indication shall be provided for customer use.

TAG
SSS
SSS

SERVICE
Pump No.1 Solid State Starter
Pump No.2 Solid State Starter

7.04 POWER SUPPLY: Power supplies shall be for 120V AC primary and 13.5V DC secondary and shall have a frequency range of 47-440 Hz with an inrush current

of 35A. Secondary adjustment range shall be 10% minimum. Line and Load regulation shall be 0.3%. Output ripple shall be no more than 180mV. Voltage Tolerance shall be 1%. Over voltage protection shall clamp at 115-135% and short circuit protection shall be continuous, self-recovering.

TAG
DPS

SERVICE
DC Power Supply

- 7.05 UNINTERRUPTIBLE POWER SUPPLY: Provide a battery charger for 12V DC Sealed Lead Acid rechargeable batteries with an optional 24V DC isolated output. The maximum battery current charging current is 2.9 amps for a completely dead battery and typically less than 0.4 amps for battery voltages over 10V DC. Trickle charging shall stop at a battery voltage of 13.8V DC. The unit shall operate on 13.8V DC with a current rating of up to 11 amps. Provide an optional, integral battery backed up 24V DC option that is capable of being field mounted onto the unit, for powering external 4-20 mA loops or other instrumentation of up to 1 amp maximum load and shall be isolated from the input power supply if necessary. Provide quick-connect terminal blocks for all connectors. Provide High and Low input power supply voltage.

TAG
UPS

SERVICE
Uninterruptible Power Supply

- 7.06 RECHARGEABLE BATTERY: The battery shall be a sealed Lead-Acid type with ABS plastic case and spill proof construction allowing safe operation in any position. Nominal voltage shall be 12V DC (six cells in series). The nominal capacity shall be 12.0 Ah at a discharge rate of 20 hours (600 mA to 10.5 volts). Terminal configuration shall be via quick disconnect tabs type F1: 0.187" x 0.032". Operating temperature range shall be at least -4° to +122°F. The unit shall be UL recognized.

TAG
BAT

SERVICE
Standby Power Supply

- 7.07 RADIO MODEM TRANSCEIVERS: Radio Modem Transceiver shall provide re-farming compliant high speed data link communication with system security and diagnostic reporting. The RMT shall provide full UHF, VHF, and 900 MHz MAS bands as required by the FCC license. The RMT shall be capable of transmitting MODBUS protocol messages. Built-in radio diagnostics shall be included and shall be capable of reporting specific unit programming, link testing, and radio performance statistics including RSSI, temperature, supply voltage, and additional parameters throughout the radio. Radio diagnostic information shall be capable of on-line communication with each transmission with no interruption in the application, and with minimum overhead. The RMT shall also comply with FCC re-farming and power regulations. Bandwidth shall not exceed 12.5 KHz. To assure communications with the OWNER=s existing resources and to assure

compliance with FCC regulations, Radio Modem Transceivers shall be Cal-Amp Model Guardian 100 - No Substitutes shall be accepted.

<u>TAG</u>	<u>SERVICE</u>
RMT	Radio Modem Transceiver

- 7.08 ANTENNA: Antennas shall be either of two types with masts/heights as indicated in the Signal Path Survey (which shall be conducted by the facilities supplier). Antenna types shall comply with the following:

Omni Directional Type 1:	Cushcraft Model #CRX-150B (or approved equal)
Yagi Directional Type 2:	Cushcraft Model #P154-4 (or approved equal)

<u>Antenna Height:</u>	<u>Description:</u>
20 Feet	Rohn Model #161005GHS (or approved equal)
30 Feet	Rohn Model #H30 (or approved equal)

<u>TAG</u>	<u>SERVICE</u>
ANT	Radio Modem Transceiver Antenna

- 7.09 BULKHEAD LIGHTNING ARRESTER: Radio lightning protection shall be bulkhead mounted and shall be rated as follows:

Throughput Energy: 600 J
Frequency Range: 1.5 to 400 MHz
Max. Power: 375 W, VHF

<u>TAG</u>	<u>SERVICE</u>
AP	CTU/RTU Radio Lightning Arrestor

- 7.10 DUPLEX PUMP CONTROLLER: Provide a Duplex Pump Controller including the following features:

A. OPERATORS AND FRONT PANEL INDICATORS (for each pump)

1. Manual-Off-Automatic selector switch
2. Green "Pump Running" pilot light
3. Red "Pump Failure" pilot light
4. Red "Pump Seal Failure" pilot light

- B. A Pump NO.1 LEAD - ALTERNATE - Pump NO.2 LEAD sequence selector switch to select either pump as lead pump or to select that the pumps alternate as lead pump on each call for cycle.

- C. Signal inputs for stop, lead pump start, lag pump start, and high/low alarm. The sensors shall be optically isolated and operate on 24V DC with a maximum current of 16 mA for intrinsic safety.
- D. Pilot light indicators for each signal input described above, as well as, Pump No.1 and No.2 running inputs.
- E. The controller shall operate a pump based upon various combinations of signal inputs. Normal operation shall operate pumps in the following automatic sequence:
 - 1. With no signal inputs activated and both pumps off, a stop input activation shall not cause a pump to operate. With a stop input activated and a lead start input activated, the controller shall start a single pump that pump shall operate until the lead start and stop inputs are deactivated. With both the stop and lead start inputs activated and one pump operating, a lag start input being activated shall operate the second pump. Both pumps shall operate until the lag start, lead start, and stop inputs are deactivated.
 - 2. In the event an input device(s) fails to activate the controller shall operate as follows:
 - 3. With a stop input device failure, the controller shall operate a single pump based upon the status of the lead start input and a field adjustable short cycle delay. The short cycle delay shall keep the pump operating after the start input deactivates for the delay time setting. If the stop input device fails to activate, the controller shall operate one pump as described above with the lag start input starting the second pump. Both pumps shall operate until both start inputs are deactivated and the individual pump short cycle delays have expired. In the event both the stop and lead start inputs fail to operate, the controller shall operate both pumps based upon the status of the lag start input and the individual pump short cycle delay timers. Both pumps shall operate until the lag start input is deactivated and the individual pump short cycle delays have expired. If all input devices fail except the high/low alarm input, the controller shall operate both pumps based upon the status of the high/low alarm input and the individual pump short cycle delay timers. Both pumps shall operate until the high/low alarm input is deactivated and the individual pump short cycle delays have expired.
- F. A field adjustable failure time delay for each pump, in the range of 5 seconds to 62 minutes, to start the lag pump at the lead pump start point if the lead pump fails or if the lead pump selector switch is placed in the off position. If a pump fails, the remaining functional pump shall remain the

lead pump on future cycles. The failed pump shall only be called to operate at the lag pump operating point. Normal pump alternation shall resume when the failure condition is corrected and the pump has been reset.

- G. Soft stop feature to require the pumps to stop three (3) seconds apart during the condition that both pumps are running when signaled to stop. Soft start feature to require the pumps to start three (3) seconds apart during conditions that the lead and lag pumps are called for simultaneously.
- H. Individual field adjustable time controls to delay starting each pump in the automatic mode after power failure or during initial startup.
- I. Pump failure, pump seal failure, and high/low alarm red pilot lights shall flash when activated. Provide field selectable controls to allow the seal failure indicator to burn steady when activated.
- J. Manual override inputs for each pump, which can be used to manually override the duplex controls', pump outputs when the controls are in the Automatic mode. Inputs shall be provided to start or stop each pump from a remote location.
- K. Provide a selectable improper sequence alarm to activate the common alarm in the event the control inputs are activated in the wrong order. The proper order shall be Stop, Lead Start, and Lag Start. The High water alarm shall not be included in the improper sequence test. Provide a selectable Lag Stop Level control to allow the lag pump to stop based upon the status of the lead start level input.
- L. Provide automatic pump alternation on pump failure and seal failure when a failure condition is detected and the pumps are in the automatic mode. The failed pump shall be made the lag pump on future cycles until the failure condition is corrected. Pump failure shall require manual reset to clear the failure condition and the seal failure condition shall clear when the failure condition clears. Provide field selectable controls to allow the seal failure condition to not automatically alternate the pumps.
- M. An exterior alarm light output that would flash the light brightly during any common alarm condition that includes pump failure, seal failure, improper sequence, and high water alarm. The output shall allow the light to dim glow under normal conditions to indicate that power is on and the lamp is good. A normally open common alarm output contact shall be energized by these alarm conditions. Provide selectable controls to prevent the seal failure input from activating the common alarm output and alarm light.

N. Provide an intelligent Lift Station Analyzer with the following features:

1. Provide the following additional inputs: an external normal power failure input for use in remote telemetry, three (3) 4-20 mA analog inputs with an input resistance of 100 ohms.
2. Provide the following additional outputs: pump no.1 is lead, pump no.2 is lead, pump no.1 selector switch is in the automatic position, and pump no.2 selector switch is in the automatic position.
3. Provide front panel status indicators for pump running, pump failure, pump seal failure, high/low alarm and auxiliary input.
4. Provide selectable first on/first off control to allow the first pump activated to be the first pump off when both pumps are activated.
5. Influent and Effluent flow rate calculation based on floats or portable submersible pressure level transmitter.
6. Provide two serial communications ports, one RS-232 and one RS-485 for interfacing with RTU's, PLC's, radio or telephone modems, operator interfaces, and PC's. The ports shall support industry standard communication protocols, such as MODBUS[™] and BrickNet[™] at baud rates of 1200, 2400, 4800, and 9600.
7. Provide a user selectable unit address from 000 to 999. The switches shall allow the unit address to be set without software or special equipment.
8. Provide user selectable cross sectional area switches. The switches shall allow the cross sectional area of the wet well to be set without software or special equipment.
9. Provide user selectable float distance setting switches. The switches shall allow the distance between the stop, lead start and lag start floats to be set without software or special equipment.
10. Provide average pump capacity calculation as well as the following other statistics: Pump Runtimes, High/Low and Average Inflow for the last 24 hours, Average flow-capacity loss when more than one pump is running, Estimate Real-Time level based upon current flows and float positions.
11. Provide TRUE Volumetric Influent Flow calculation with long-term averaged error not to exceed 0.2% of Full Scale.

12. The analyzer shall be capable of operating with float switches or a level controller with dry contact outputs for All-Stop, Lead Start and Lag Start during normal operation and use a portable submersible pressure level transmitter (SPLT) for automatic calibration in determining the level positions of all floats. During the calibration process, the SPLT shall automatically start the calibration procedure when it is plugged into the lift-station analyzer, and stop the procedure when it is unplugged.
13. For level control systems using SPLT level sensing, the analyzer shall be capable of using the signal from the SPLT in all calculations.
14. The controller shall monitor key lift station functions such as Seal and Pump Failures, Improper Sequence, General Alarm, High Level Alarm, Pump Currents, pump runtimes, and pump duty cycles.
15. Data-logging and storage in non-volatile memory.
16. Capability for an optional external operator interface hex-keypad for easy entry of floating point numbers, setpoints, menu selections and other parameters that need to be entered into the controller.

TAG
DCI-2

SERVICE
Pump Station Duplex Pump Controller

- 7.11 FLOAT TEST: Provide input indicator and test module with improper input sequence indicator and controls. The following controls and equipment shall be supplied.
- A. Four deadfront panel mounted input pilot light indicators: One for each of the following level control points Stop, Lead Start, Lag Start and High Level alarm.
 - B. Four deadfront panel mounted pushbuttons to test each pump level control input.
 - C. Automatic input sequence monitoring, such that if the inputs do not occur in proper order (stop, lead start and lag start); a red pilot light indicator shall be activated.
 - D. If stop input fails, followed by lead input activation, lead pump shall operate and continue until lead pump input is removed and a field adjustable time delay has expired.
 - E. If stop input fails, followed by lead and lag input activation, both motors shall operate and continue until their respective input is removed and an

individual field adjustable time delay for each pump has expired.

F. If stop, lead and lag inputs fail, followed by high level input activation, both motors shall operate and continue until the high level input is removed and a field adjustable time delay for each pump has expired.

G. Improper sequence activation shall also activate the common external alarm controls.

H. Improper sequence alarm shall require reset button activation to remove the alarm light.

TAG
FT

SERVICE
Float Test Module

- 7.01 FLOAT SWITCHES: The float switch shall be a direct acting switch and contain a single pole mercury switch, which actuates when the longitudinal axis of the float is horizontal and de-actuates when the liquid level falls 1" below the actuation elevation. The float shall have a chemical resistant polypropylene casing with a firmly bonded electrical cable protruding. One end of the cable shall be permanently connected to the enclosed mercury switch and the entire assembly shall be capsulated to form a completely watertight and impact resistance unit. Float shall include a bracket for support pipe mounting.

TAG
F

SERVICE
Wetwell Float Switches (Qty. 4)

- 7.02 MOTOR MONITOR: Provide an electronic solid state Motor Monitor with proportional 4-20mA output, powered by 120 volt AC that will accept a zero (0) to five (5) amp input signal condition the signal to perform ON/OFF or OPEN/CLOSE discrete dry type setpoint contact conditions based on the input signal value. The Motor Monitor shall have the following features.

- A. Provide an LCD readout meter providing field adjustable scales of 0-25.0, 0-50.0, 0-100.0, 0-250, 0-500 and 0-1000 to accurately indicate the motor full load current using the 0-5 amp input signal.
- B. The Monitor shall be capable of displaying motor total running time up to 99,999.9 hours and be provided with reset capability from the rear of the monitor. The display shall include a non-volatile EEPROM memory backup that does not require battery backup during power failure.
- C. Provide two (2) separate field adjustable setpoints, each with discrete, isolated sealed SPDT relay output contacts. The setting of each setpoint shall be adjustable throughout the complete signal range from the front of the Monitor. Each set point shall be provided with a field adjustable "ON"

and "OFF" time delay, adjustable from zero (0) to fifteen (15) seconds. The actual setting of each setpoint shall be able to be displayed on the LCD readout at any time. An LED indicator shall be provided for each setpoint and shall operate as follows:

1. Setpoint No. 1: When setpoint is timing, the indicator shall burn amber. After timing period and current is at or above setpoint, indicator shall burn green.
 2. Setpoint No. 2: When set point is timing, the indicator shall burn amber. After set timing period and current is at or above setpoint, indicator shall burn red.
- D. Provide a 4-20mA or a 1-5Vdc output signal which is proportional to the amperes being measured. Load maximum impedance should not exceed 330 ohms. Output signal shall be factory calibrated.

TAG

MM-1

MM-2

SERVICE

Pump No.1 Motor Monitor

Pump No.2 Motor Monitor

7.03 CURRENT TRANSFORMER: Current transformers insulation class shall be 0.6 KV BIL, 10 KV Full Wave. They shall be manufactured to meet the requirements of UL1244 and have a minimum accuracy of 60Hz of 2%. Current transformers shall be provided with brass stud terminals and mounting bracket.

7.04 COMMON ALARM LIGHT: Alarm Light shall be RAB catalog number VBR100/GL100PGR or equal. Alarm light enclosure shall be constructed of die cast aluminum with a sturdy mounting bracket. Alarm light shall be suitable for wet location and comply with UL standard 1598, for hazardous locations where the lamp, socket and wiring require protection from rain, corrosive fumes, non-combustible dusts, moisture, non-explosive vapors and gases. The alarm light shall burn dim and steady during normal conditions to indicate electrical power "ON" and lamp good. During any alarm condition, the alarm light shall flash brightly. Alarm light mounted on the side of the enclosure or as directed by the project engineer.

TAG

AL

SERVICE

Common Alarm Light

7.05 CONTROL POWER SURGE PROTECTION DEVICE (SPD): The surge protection device shall be mounted in the control panel in series with the control power circuit. Provide a single-phase, in-line series AC power line surge protector with the following features:

- A. Rated voltage shall be 120 VAC @ 60Hz.

- B. Current rating shall be 20 Amps @ 40°C.
- C. The protection circuitry shall automatically reset after the transient has passed.
- D. Protection modes shall be: Line to Neutral, Line to Ground, and Neutral to Ground.
- E. Provide three (3) Green LED indicators to indicate protection status of each mode when power is present (L-N, L-G, N-G).
- F. Varistors with integral thermally activated elements shall be used to open in the event of overheating due to the abnormal overvoltage, limited current conditions outlined in UL1449. The lower inductance of the varistors shall result in improved clamping performance to fast overvoltage transients.
- G. Metal Oxide Varistors (MOV) shall have cured, flame retardant epoxy polymer coating meeting UL94V-0 requirements.
- H. Electromagnetic Interference (EMI) filtration shall be incorporated into the unit to dampen unwanted signals from the protected side of the unit.
- I. Operating temperature shall be -40 to +70°C.
- J. Screw terminals shall be provided for all wiring.
- K. Maximum continuous operating VAC shall be 115% of rated line voltage.

TAG
SPD-2

SERVICE
Control Power Surge Protection Device

END OF SECTION

GROUTED RIPRAP

DESCRIPTION:

This work consists of furnishing and placing a protective covering of erosion resistant material including geotextile fabric, where shown on the plans for pier foundation protection, slope, or ditch protection. This work shall be in accordance with these specifications and in reasonably close conformity with the lines, grades and dimensions shown on the plans or established.

MATERIALS: Materials shall conform to the following:

Geotextile fabric shall meet the requirements of Type V with a tensile strength of 200 lbs.

Aggregate for loose riprap, stone riprap for foundation protection, or that to be grouted shall consist of field stone, broken concrete, or rough, unhewn quarry stone as nearly rectangular in section as is practicable. The stone shall be dense, free of clay or shale seams, resistant to the action of air and water, and suitable in all other respects for the purpose intended. Quality requirements for rock to be furnished under these specifications will be checked or tested as determined by the Testing Engineer prior to use and subsequently if deemed appropriate.

CONSTRUCTION DETAILS:

Prior to the construction of riprap or slope paving, the slopes or ground surface shall be shaped to lines and grades, indicated on the plans or directed, and shall be thoroughly compacted by the use of mechanical or hand tamps. Unless otherwise stipulated or directed, slopes shall not be steeper than the natural angle of repose of the material upon which riprap is to be constructed.

The outer edges and the top of the riprap or slope paving where the construction terminates shall be formed so that the surface of the riprap or slope paving will be embedded and even with the surface of the adjacent slope or ground, and the bottom of the riprap or slope paving shall be placed at least two feet below the natural ground surface unless otherwise directed.

All riprap or slope paving shall be started at the bottom of the slope and constructed upward.

INSTALLATION OF GEOTEXTILE FABRIC:

When required by the contract, geotextile fabric shall be placed in the manner and at

locations shown on the plans. The area to receive the fabric shall be prepared to a relatively smooth condition free of obstructions, depressions and debris. The fabric shall be placed loosely without wrinkles or creases with the long dimension perpendicular to the channel. The strips shall be placed to provide a minimum overlap of 18 inches. Securing pins with washers shall be inserted through both strips of overlapped fabric at mid-point and not greater than two foot intervals. Additional pins shall be installed throughout the fabric as necessary to prevent any slippage. The fabric shall be placed so that the upstream strip overlaps the downstream strip and the higher slope strip overlaps the lower strip. Each securing pin shall be pushed through the fabric until the washer bears against the fabric and secures it firmly.

The fabric shall be protected from contamination and damaged during installation and placement of the specified cover material. Riprap shall not be dropped from a height greater than three feet. Contaminated fabric shall be replaced, and damaged fabric shall be repaired or replaced as directed at no cost to the Department.

The fabric shall be covered with a layer of the specified material within 14 calendar days after placement. Fabric not covered within this time period shall be removed and replaced at the Contractor's expense if damage or deterioration is evident, as determined by the Engineer.

GROUTED RIPRAP

Grout for grouted riprap shall consist of one part of portland cement and three parts of approved sand thoroughly mixed with water to produce grout having a thick, creamy consistency.

The stones shall be of the size designated in the bid schedule of the contract and shall be placed in the same manner as specified for loose riprap. Care shall be taken during placing to keep earth or sand from filling the spaces between the stones.

After the stones are in place, the spaces between them shall be completely filled with grout from bottom to top and the surface swept with a stiff broom.

CLEANING UP:

Upon completion of the work, the surface of the riprap or slope paving shall be cleaned, surplus material and debris removed and disposed of as directed, and the site of the work left in a neat presentable condition.

WATER SYSTEMS

1. GENERAL

a. This item shall consist of furnishing all of the necessary materials, supervision, labor, tools, equipment and incidentals, and the installation of various types and sizes of water pipe and related items in accordance with the Contract Drawings and Specifications, as stated in the Proposal.

2. APPLICABLE PUBLICATIONS

a. The following publications form a part of these Specifications and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

i. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- (1) A 139 Electric-Fusion (Arc) welded steel pipe (sizes 4 inch and over).
- (2) A 252 Welded and Seamless steel pipe piles.
- (3) Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field.
- (4) C 33 Concrete Aggregates
- (5) C 39 Test for Compressive Strength of Cylindrical Concrete Specimens.
- (6) D 2922 Density of Soil Aggregate in place by the clear Method (shallow depths).

ii. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- (1) 21.10 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch for Water and other Liquids.
- (2) Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.
- (3) Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-line Molds, for Water or other Liquids.

iii. AMERICAN WATER WORKS ASSOCIATION (AWWA)

- (1) C 104 Cement-Mortar Lining for Cast Iron Pipe and Fittings for Water and Other Liquids.
- (2) C 106 Cast Iron Pipe Centrifugally Cast in Metal Molds, for water and other Liquids.
- (3) C 110 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids.
- (4) C 111 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.
- (5) C 150 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or other Liquids.

iv. AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO)

- (1) T-88 Particle Size Analysis of Soils.
- (2) T-89 Determining the Liquid Limit of Soils.
- (3) T-90 Determining the Plastic Limit and Plasticity Index of Soils.
- (4) T-99 Moisture Density Relations of Soils Using a 5.5 lb. Rammer and 12 inch Drop.
- (5) T-191 Density of Soil In-Place by the Sand-Cone Method.

v. MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Standard Specifications for Road and Bridge Construction, current edition.

3. SUBMITTALS

a. The following submittals shall be required for the respective materials used in the work. All submittals shall be submitted through the Contractor to the Engineer.

- i. Ductile Iron Pipe: The following submittals shall be required for ductile iron pipe systems utilized on the project. The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to

the requirements as specified hereinafter under Article 4.0, Materials. In addition, the submittals shall include the following:

- (1) Joints: The following shall be required for ductile iron joints.
 - (2) Drawings or Manufacturer's Catalogue data indicating dimensions and tolerance.
 - (3) Gaskets shall be tested in accordance with the respective standards as indicated in ANSI 21.11 and results shall be included in the submittals. Test shall be for similar materials on the gaskets and be not more than one year old.
 - (4) Mechanical Joints: Should the Contractor elect to use mechanical joints in lieu of push-on joints, manufacturer's data shall be submitted in accordance with the "Special Requirements for the Mechanical Joint" as stated in ANSI 21.11 (AWWA C 111).
- ii. Ductile Iron Pipe: Submittal Shall Include the Results of the following. Sampling procedure shall be as indicated in ANSI 21.51.:
- (1) Tension Test
 - (2) Impact Test
 - (3) Low Temperature Impact Test.
- iii. PVC Pipe: The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements of these specifications and appropriate construction drawings.

4. MATERIALS - WATER SYSTEM:

a. Ductile Iron Pipe:

- i. Ductile iron pipe shall be designed in accordance with the latest revision of ANSI/AWWA C51/A21.51), rated working pressure of 350 psi plus a 100 psi surge allowance; a 2 to 1 safety factor on the sum of working pressure plus surge pressure in Type 3 laying condition with a depth of cover as required per plans.
- ii. Pipe shall have standard asphaltic coating on the exterior. Pipe also shall have a cement mortar lining on the interior in accordance with the latest revision of ANSI/AWWA C104/A21.4. If corrosion protection is required, polyethylene encasement shall be installed prior to the pipes installation in

accordance with ANSI/AWWA C105/A21.5-88.

- iii. All non-restrained pipe shall be furnished with push-on type joints such as "Fastite; or equal. Joints shall be in accordance with the latest revision of ANSI/AWWA C111/A21.11 and shall be furnished complete with all necessary accessories.
- iv. Where restrained joint pipe is required, "Fast Grip", "Flex-Ring; or "Field Flex-Ring" or approved equal shall be used. The length of restrained pipe shall be as tabulated or noted on the plans.
- v. Ductile iron fittings shall conform to the latest revisions of either ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53. Fittings, linings, and coatings shall be as specified for the pipe above.
- vi. All pipe, fittings and accessories shall be installed and tested in accordance with the latest revision of AWWA C600. Newly installed ductile iron water mains shall be disinfected in accordance with the latest revision of AWWA C651 prior to placing in service.

b. PVC PIPE

- i. All PVC pipes for this project shall be SDR 26, Class 160 psi, conforming to the latest edition of ASTM D2241, *"Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)."*
- ii. All PVC SDR Series pipe shall be manufactured from a Type I, Grade I Polyvinyl Chloride (PVC) compound with a Cell Classification of 12454 per ASTM D1784. The pipe shall be manufactured in strict compliance to ASTM D2241, consistently meeting and/or exceeding the Quality Assurance test requirements of this standard with regard to pressure rating, material, workmanship, burst pressure, flattening, impact resistance, and extrusion quality.
- iii. The pipe shall be manufactured in the USA, using domestic materials, by an ISO 9001 certified manufacturer. Standard lengths of pipe sizes 8" and larger shall be beveled on each end by the pipe manufacturer. All pipes shall be stored indoor after production at the manufacturing site until shipped from factory. This pipe shall carry the National Sanitation Foundation (NSF) seal of approval for potable water applications.

c. Gate Valves: Where indicated on the Plans or directed by the ENGINEER, the CONTRACTOR shall furnish and install gate valves as hereinafter specified.

- i. All gate valves shall be cast iron mechanical joint, M.J., Mueller A-2380-20,

equivalent or better.

- ii. All gate valves shall be furnished with O-ring packing and 2" square operating nut, AWWA 200lb., for cast iron water main.
- iii. Valve boxes shall be cast iron top and bottom. Extension pieces shall be provided as required.
- iv. Payment for furnishing and installing gate valves with box shall be made at the contract unit price per valve according to type and size as listed in the proposal.
- v. All valves will be set at a perfect 90 degree angle from level pipe, (perpendicular) so as to be easily accessible through properly set valve box as per specifications above.
- vi. The CONTRACTOR shall furnish and install either a two-piece or three-piece, slip type, cast iron valve box over each gate valve. Valve boxes will be set over valve operating nut, centered so as to be easily accessible with a valve operating wrench or key. They will be set to correspond with the finished grade of street, lot, or easement. No dirt will be left in box; box will not rest directly on valve body.

d. Fittings, Valves and Hydrants, Etc.:

- i. All fittings, valves and valve boxes, hydrants, and other appurtenances are to be set at the points indicated on the plans, or as directed by the ENGINEER, and omission to do so shall be corrected by the CONTRACTOR without extra cost to the OWNER.
- ii. All fitting shall either be Ductile Iron Compact (ANSI/AWWA C153/A21.53) or Cast Iron (ANSI/AWWA-C110/A21-10) and shall have mechanical joint ends and mechanical joint restraints (Series 1120) and shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A 536-80. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices.
- iii. The mechanical joint restraint device shall have a working pressure of a least

250 psi with a minimum safety factor of 2:1 and shall be EBAA Iron., MEGALUG or equal.

- iv. To improve the sealing capacity, the gaskets for all mechanical joints conforming to the requirements of ANSI/AWWA C110/A21.10, C111/A21.11, or C153/A21.53 shall be of a design that causes the gasket to deflect approximately 30% during assembly of the mechanical joint. The gasket material shall conform to the requirements of ANSI/AWWA C111/A21.11, Section 1-6.4 of the latest revision. Mechanical joint gaskets shall be EBAA Iron's EBAA Seal- Improved Mechanical Joint Gasket or approved equal.
 - v. Fittings (bends, tees, plus, and caps) shall be securely braced by mechanical joint restraints, as indicated on the Plans, to prevent the possibility of blowing off under pressure. And a full length of pipe shall be installed on each end of the fitting. Then cut pieces can be installed beyond the full lengths of pipe.
 - vi. The prices bid furnishing and installing valves, fittings, etc., shall include compensation for furnishing mechanical joint restraints as required at beds, tees, plugs and caps. No separate or extra compensation will be allowed for any of the above specified incidental work or material.
- e. Plugs and Caps:
- i. Where indicated on the Plans, or as directed by the ENGINEER, the CONTRACTOR shall install plugs for anticipated future extensions by placing a branch fitting (tee or cross) in the line and plugging the unused branch or branches. In general, such plugs will be located at street intersections where present plans provided lines running in only two or three directions from the intersections and where, in the opinion of the ENGINEER, a connection may be required for future extension. Where "deadend" lines are installed, the ends of such lines shall be plugged or capped as required.
 - ii. For the various hot taps required according to the plans, and up to 12 inches, the JCM 432, stainless Tapping Sleeve shall be required. The CONTRACTOR shall furnish all materials for these various taps and shall make the tap as directed by the Engineer.
- f. Casing Pipe: Steel pipe utilized as casing at locations shown on the Contract Drawings shall be new round piling pipe conforming to the requirements of ASTM A 252 or A 139. Casing diameter shall be adequate to allow pushing of the specified diameter of water pipe and make proper connections at the ends. Minimum Wall Thickness for steel casing is 0.375 inch.
- g. Wash Gravel Bedding Material: Select Granular material for pipe bedding shall be

coarse concrete aggregate. The coarse concrete aggregate shall conform to the gradation sizing Number 467 specified in Table 2 of ASTM Standard Specification C-33. (See Following Table:)

SIZE NO. 467

Nominal Size (Sieves w/Square Openings)	Percent Passing by Weight
2"	100
1 - 1/2"	0 - 5
No. 4	35 - 70
3/8"	10 - 30
3/4"	95 - 100

h. Stabilization Material: Stabilization Material shall be a pit run mixture of sand and gravel. The sand shall be hard, sharp and durable particles. All gravel shall pass a 1 - 1/2" sieve.

i. Concrete: Concrete shall be in accordance with the requirements of Technical Specifications – CONCRETE

j. Select Backfill:

- i. General : The select material shall be composed of a natural or artificial mixture of sand, silt, clay or soil binder or other material of satisfactory cementing value. The sand shall be hard, sharp, and durable particles, preferably siliceous. The binder shall be a grade of clay or other material having satisfactory cementing qualities and shall be homogenous in character, free from vegetable matter, clay balls or other deleterious substances that cannot be classed as serviceable base material.
- ii. Gradation: Any coarse aggregate contained in the material shall pass the one and one-half (1-1/2), sieve and not more than thirty-five percent (35%) shall be retained in the Number 10 sieve. The plasticity index (P.I.) shall not exceed 12, nor shall the liquid limit exceed 30.
- iii. The composite selected sand-clay material passing the Number 10 sieve shall conform to the following minimum and maximum gradation limits:

Sieve	Percent Passing by Weight
Number 40	40
Silt (.05 to .005 mm)	30
Number 270	8
Clay (Passing .005 mm)	3
Number 60	3

- iv. Backfill: All other backfill shall consist of excavated material removed from the trench.

5. CONSTRUCTION:

a. Earthwork:

i. Site Preparation:

- (1) Topsoil shall be stripped and stockpiled in accordance with Technical Specifications.
- (2) All vegetation such as brush, heavy sod, heavy growth of grass, decayed vegetative matter, rubbish and any other unsuitable material within the area of trenching shall be stripped or otherwise removed before the trenching is started, and in no case shall such objectionable material be allowed in the trench.
- (3) Stripping operation shall be to a depth of not less than 6 inches in all cases.

b. Asphalt or Concrete Removal: Before trenching operations begin, the existing asphalt or concrete pavement shall be scored or cut to a proper depth to give a straight vertical edge when removed. The asphalt or concrete shall be disposed of offsite by the Contractor. While removing the asphalt or concrete in the trench line, never shall the adjacent asphalt be raised or pulled from its base.

c. Trenching:

- i. The Contractor shall determine all requirements for trench dimensions, alignment, and grades. The trench shall be excavated in conformance with all federal, state and local regulations for the protection of the workmen. Shoring, sheeting and/or a moveable form shall be used as required to provide earth stability during the laying operations.

- ii. The final excavation of the trench for the pipe installation shall be as indicated on the Plans. Minor variations in horizontal (within the permanent easement) or vertical alignment during construction shall be made during construction (with the Engineer's approval) to facilitate ease of installation and operation (due to potential conflicts; i.e., utility conflict) at no additional cost to the Owner except for additional piping, if any. The trench from the top of the pipe down to the bottom of the bedding shall be of a consistent width as indicated on the plans. Should the excavated width of the trench be larger than the design width, the Engineer may direct that a higher type or class of bedding be used; or other adjustments be made to increase the load carrying capacity of the pipe.
- iii. The Contractor shall not excavate more trench in advance of pipe laying than is necessary to perform the work efficiently. No more than 100 feet of open trench shall be allowed unless approved by the Engineer.
- iv. Excavated material shall be placed in a manner that will not obstruct sidewalks, driveways, or other structures. Excavated material shall not be placed so as to surcharge the walls and jeopardize trench stability.

d. Disposal:

- i. The Contractor shall satisfactorily dispose of all excess earth from excavations either in approved (by the Engineer) areas within the construction limits or away from the project in disposal sites obtained by the Contractor.
- ii. The Contractor will be permitted to mound excess earth over the trench to a maximum depth of 12 inches above the original ground surface or finished grade where the trench is located in unimproved property. Wasting of excess excavated material will not be permitted within any road ROW. All material within the construction limits shall be placed so that natural drainage is maintained and the surface shall be graded to a smooth and uniform appearance. The disposal of waste and excess excavating materials, including hauling, handling, grading, and surfacing shall be subsidiary obligation of the contractor and no separate payment will be made. Therefore, the cost of such work shall be included in the Contract Unit Price for installation of water pipe.

e. Dewatering:

- i. The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches and dikes and shall perform all pumping and other work necessary to divert or remove rainfall and other accumulations of surface water from the excavations. The diversion and removal of surface

water performed in a manner that will prevent the accumulation of water behind temporary structures or at any other locations within the construction area where it may be detrimental. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hoses, piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least one foot below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of one foot below the lowest excavation subgrade made until the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures.

- ii. Where groundwater is encountered, the Contractor shall make the effort necessary to secure a dry trench bottom before laying pipe. In sandy and in other suitable type soils, dewatering shall be done by well pointing. If, in the opinion of the Engineer, the Contractor has failed to obtain an absolutely dry trench bottom by insufficient use of all known methods of trench dewatering, the Engineer may order the Contractor to excavate below grade and place not less than 6 inches of graded crushed stone fill material over the trench bottom to form trench drains to suitably located sumps and to remove the water by bailing or pumping. The graded crushed stone fill material shall be placed at the Contractor's own expense and shall be of such depth that there shall be not water in bell holes at the time of coupling pipe. All costs of equipment, labor, and materials required for dewatering shall be included in the bid price.

f. Bedding:

- i. The Contractor shall satisfactorily shape the trench area (to specified line, grade and cross section) to receive bedding material. The bottom of the trench shall be undisturbed soil. Should the Contractor over excavate the trench without direction from the Engineer, the trench shall be brought up to grade with select backfill and compacted to at least 90% of maximum laboratory density as measured by AASHTO T 99. Such additional work and materials for over excavation without direction of the Engineer shall be at the expense of the Contractor.
- ii. Holes for the bells shall be provided at each joint in the subgrade or in the granular fill bedding material as required. The holes shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the material. The Contractor shall install the proper bedding for the respective type of pipe and depth of installation as shown in the details and schedules on the plans. When depths vary in a particular manhole run, the Contractor shall change bedding systems in accordance with the depth installation requirements.

- iii. Stabilization Materials: When the subgrade is found to be unstable or to include ashes, refuse, organic material, or other unsuitable material, the Engineer may direct that the subgrade be over excavated to remove such material. The depths of over excavation shall be as directed by the Engineer. Stabilization material shall be placed into the over excavated area of the trench and shall be paid for in accordance with these specifications. Stabilization shall be compacted to at least 90% of maximum laboratory density in six inch lifts.
- iv. Bedding Materials:
 - (1) As detailed in the plans, bedding material shall be placed to the specified depth below the pipe and tamped to a minimum of 90% of maximum laboratory density as determined in accordance with AASHTO T 99. Following placement of pipe, additional bedding material shall be placed and consolidated under the haunches of the pipe. Special tools shall be required to work the material into place and leave no voids beneath the pipe. The bedding material shall be tamped along the spring line (or along the top of the bedding material as indicated) of the pipe to sufficiently compact the material insofar as practical.
 - (2) The Engineer may direct additional moisture be added to the bedding material to aid in the compaction effort. Mechanical tampers may be employed to aid the process depending on the particular bedding required, additional bedding shall be added and tamped to a minimum of 90% of maximum laboratory density, with AASHTO T-99.
- v. Select Backfill: Select backfill shall be placed in 6 inch lifts and tamped to a minimum laboratory density with AASHTO T-99. Overall depth of the select backfill shall be as directed by the Engineer.
- vi. Normal Condition Bedding: Under normal conditions the trench bottom shall be undisturbed earth shaped to the specified line, grad, and cross section with proper bell holes at each joint to insure that pipe barrel lies flat on trench bottom. The bedding material will be selected native materials excavated from the trench and placed in two lifts. The first lift being placed up to the spring line of the pipe and extending out to the trench walls and hand tamped to a minimum of 90% of maximum laboratory density. Special care shall be used in placing and tamping bedding to insure no voids under the haunches of the pipe. The second lift shall extend to approximately 6" above pipe (Material permitting) and hand tamped to 90% density.
- g. Backfilling: Upon completion of placement of select material the excavated materials shall be immediately placed back into the trench. Specific requirements are:

- i. Backfill requirements for road crossings, parking lots, driveways, and sidewalks shall be in accordance with Technical Specifications
- ii. Backfill requirements for unimproved areas (pastures, wooded areas) shall consist of placement and shaping of the soil in such a manner as to allow maximum natural consolidation. No compaction of the general backfill in the unimproved areas will be required, except that caused by conventional shaping equipment.
- iii. No debris shall be used as backfill which has a volume in excess of one-half of one cubic foot or weight excess of 75 pounds.

h. Sheeting Removal: Wooden sheeting or other thick sheeting or shoring members which have been driven or otherwise placed along the trench walls to an elevation below the spring line of the pipe shall be cut off at the spring line or higher and left in place.

i. Grading and Grassing: Final grading and grassing shall be in accordance with Technical Specifications.

j. PIPE HANDLING AND STORAGE: Pipe shall be handled, staked, and stored in accordance with manufacturer's printed literature. The Contractor shall provide security as required to prevent damage by vandals. PVC pipe shall be shaded from sunlight for extended lengths of time. Pipe damaged during storage and handling shall be rejected.

k. PIPE LAYING:

- i. Each pipe shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the water shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. Trenches shall be kept free of water and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At times when work is not in progress, open ends of pipe and fittings shall be securely and satisfactorily closed so that no trench water, earth, or other substance will enter the pipe or fittings.
- ii. The water main shall maintain a minimum of 30 inches of cover at all times.
- iii. Pipe laying shall be performed in such a manner that no foreign material enters the pipe. The Engineer may require that before lowering pipe, heavy canvas bags be placed over each end, and left in place until joints are ready to

be made. If water is in the trench, the seals shall remain in place until the trench is pumped completely dry. If conditions are unsuitable, no pipe shall be laid until satisfactory laying conditions are obtained in accordance with the above specified requirements.

I. PIPE JOINTING: Piping shall be jointed in accordance with the manufacturer's printed recommendations. Gaskets shall be firmly set within the bells and grooves as required. The manufacturer's recommended lubricant or an approved equal shall be applied for slip type joints.

i. Ductile Iron Pipe Joint Construction: The installation and jointing of ductile iron pipe shall generally conform to the applicable provisions of AWWA Standard Specifications C-600 for pipe laying.

ii. Where mechanical joint pipe is used, the surfaces which come in contact with the gasket shall be thoroughly brushed with a wire brush just prior to assembly. The gasket should be brushed with soapy water prior to installation to remove loose dirt and to lubricate gasket as it is forced into its retaining space.

iii. When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly. The bolts should be partially tightened; the bottom bolt first, then the top; next the bolts on either side; and last, the remaining bolts. Overstressing of bolts to compensate for poor installation will not be permitted. Bolt torque shall be in accordance with manufacturer's specifications.

iv. All joints of whatever type shall be completely water tight after being subjected to the required tests.

m. BORINGS: Borings shall be accomplished in accordance with Mississippi State Highway Department Standards. The contractor shall provide all necessary sheeting, bracing, cribbing, supports and appurtenances to insure the proper line and grade throughout the entire length of the crossing.

i. Casing Pipe: Casing Pipe shall be installed as indicated on the Contract Drawings. Joints shall be completely welded to provide structural integrity and shall be watertight.

ii. Carrier Pipe: Carrier pipe may be any of the allowed options of piping. However, the piping and joints shall be capable of withstanding the stress exerted by pushing the pipe within the casing.

iii. Carrier Pipe Supports: Supports for the carrier pipe shall be as recommended by the manufacturer for such installation. Supports shall be spaced to

adequately support the piping under all conditions.

- iv. Casing Seal: The annulus between the casing and carrier pipe shall be sealed at each end by installing WMSON Type U end seals, as manufactured by T.D. Williamson, Inc. Tulsa, Oklahoma, or equal, in accordance with the instructions of the manufacturer of the seals.
6. SEPARATION of WATER and SEWER MAINS: The water and sewer specifications should state that the water line be constructed no less than 10 feet horizontally and 18" vertically with water line over sewer line. If those conditions cannot be met then they will be decided on a case by case basis.

7. TESTING

a. Ductile Iron Pipe:

- i. Field Inspection: The Engineer shall perform visual inspection of the material prior to placement by the Contractor. The Engineer may make non-destructive tests to determine the soundness of the pipe. The Contractor shall assist the Engineer in handling and moving the pipe as required.
- ii. Material Test: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittals. No other material test shall be required.

b. Steel Casing Pipe: Material test shall be included as part of the submittal. No other material test shall be required.

c. Compaction Tests:

- i. Compaction tests shall be performed in accordance with AASHTO T 191 or ASTM D 2922. Maximum compaction shall be determined in accordance with AASHTO T 99.
- ii. Compaction tests for water pipe related work shall not be less than as follows:

NUMBER of COMPACTION TESTS AASHTO T-99, AASHTO T-191, or ASTM D 2922		
Stabilization Material	1	One per 100 C.Y.
Bedding Material	2	One per 600 L.F.
Tampered Backfill	2	One per 600 L.F.

d. Hydrostatic Testing:

- i. After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 times the working pressure at the point of testing and not less than 1.25 times the working pressure along the test section, for a minimum of 2 hours.
- ii. And all test shall be in accordance with AWWA Standard C600-82, Section 4.
- iii. Allowable leakage shall be no more than that determined by the following formula:

$$L = \frac{SD\sqrt{P}}{133,200}$$

- iv. In which L is the allowable leakage in gallons per hour; S is the length of pipe tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test in pounds per square inch.
- v. These tests are to be made at the Contractor's expense and he is to provide all necessary fittings, equipment, appliances and any other necessary items to conduct the tests in a manner satisfactory to the ENGINEER. All costs incidental to conducting these tests are to be included in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore. Record of testing is to be furnished to the OWNER.

8. CLEANING AND STERILIZING:

- a. Before each section of work is placed in service, it shall be thoroughly flushed to remove any dirt or other foreign material from inside the lines; and the inside of the lines shall be sterilized by pumping into and through them a solution of chlorine of 50mg/l for 24 hours in such manner as to meet the requirements of the State Board of Health.
- b. At least two (2) samples of chlorine free water, taken from each section shall be submitted to the State Board of Health for examination to determine if the system is free from organisms of the Coli-Aerogenes group. If such samples are not negative from organisms of the Coli-Aerogenes group, the system shall be disinfected and re-disinfected in a manner meeting the requirements of the State Board of Health, until the system is freed of contamination.
- c. All water mains will be flushed, chlorinated and rechlorinated until two (2)

consecutive negative water samples are obtained by the Local Health Department. The samples shall be collected by the Certified Operator of the system or the Professional Engineer of the project.

d. The CONTRACTOR shall be responsible for the conduct of all of the above defined activities, and any and all costs incident thereto shall be included in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore.

9. WATER SERVICE

a. Service pipe shall be $\frac{3}{4}$ " Polyethylene Plastic tubing meeting the following specifications:

1. 200 PSI and complying with AWWA standards when tested by methods ASTM 1599, copper tube size (O.D.) farmable for use with standard heavy duty waterworks brass flare fittings.

2. Tubing shall comply with the standards and bear the seal of the National Sanitary Foundation.

3. All connections and fittings shall be Ford brand.

10. TRACER WIRE

a. Materials

1. General

- i. All trace wire and trace wire products shall be domestically manufactured in the U.S.A.
- ii. All trace wire shall have HDPE insulation intended for direct bury, color coated per APWA standard for the specific utility being marked, green for Sewer.

2. Trace wire

- i. Open Trench - Trace wire shall be #12 AWG Copper Clad Steel, High Strength with minimum 450 lb. break load, with minimum 30 mil HDPE insulation thickness.**
- ii. Directional Drilling/Boring - Trace wire shall be #12 AWG Copper Clad Steel, Extra High Strength with minimum 1,150 lb. break load, with minimum 30 mil HDPE insulation thickness.**
- iii. Pipe Bursting/Slip Lining - Trace wire shall be 7 x 7 Stranded Copper Clad Steel, Extreme Strength with 4,700 lb. break load, with minimum 50 mil HDPE insulation thickness.**

3. Connectors

- i. All mainline trace wires must be interconnected in intersections, at mainline tees and mainline crosses. At tees, the three wires shall be joined using a single 3-way lockable connector. At Crosses, the four wires shall be joined using a 4-way connector. Use of two 3-way connectors with a short jumper wire between them is an acceptable alternative.
- ii. Direct bury wire connectors – shall include 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon filled to seal out moisture and corrosion, and shall be installed in a manner so as to prevent any uninsulated wire exposure.
- iii. Non locking friction fit, twist on or taped connectors are prohibited.

4. Termination/Access

- i. All trace wire termination points must utilize an approved trace wire access box (above ground access box or grade level/in-ground access box as applicable), specifically manufactured for this purpose.
- ii. All grade level/in-ground access boxes shall be appropriately identified with “water” cast into the cap and be color coded.
- iii. A minimum of 2 ft. of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
- iv. All trace wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the trace wire connection and the terminal for the grounding anode wire connection.
- v. Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.
- vi. Service Laterals - Trace wire must terminate at an approved grade level/inground trace wire access box, located at the edge of the road right-of-way, and out of the roadway.
- vii. Hydrants – Trace wire must terminate at an approved above-ground trace wire access box, properly affixed to the hydrant grade flange. (affixing with tape or plastic ties shall not be acceptable)

- viii. Long-runs, in excess of 500 linear feet without service laterals or hydrants
 - Trace wire access must be provided utilizing an approved grade level/in-ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway. The grade level/in-ground trace wire access box shall be delineated using a minimum 48" polyethylene marker post, color coded per APWA standard for the specific utility being marked.

5. Grounding

- i. Trace wire must be properly grounded at all dead ends/stubs
- ii. Grounding of trace wire shall be achieved by use of a drive-in magnesium grounding anode rod with a minimum of 20ft of #12 red HDPE insulated copper clad steel wire connected to anode (minimum 1.5 lb.) specifically manufactured for this purpose, and buried at the same elevation as the utility.
- iii. When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance.
- iv. When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with a mainline to lateral lug connector.
- v. Where the anode wire will be connected to a trace wire access box, a minimum of 2 ft. of excess/slack wire is required after meeting final elevation.

b. Installation

1. General

- i. Trace wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512Hz) signal for distances in excess of 1,000 linear feet, and without distortion of signal caused by multiple wires being installed in close proximity to one another.
- ii. Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.

- iii. Any damage occurring during installation of the trace wire must be immediately repaired by removing the damaged wire, and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.
- iv. Trace wire shall be installed at the bottom half of the pipe and secured (taped/tied) at 5' intervals.
- v. Trace wire must be properly grounded as specified.
- vi. Trace wire on all service laterals/stubs must terminate at an approved trace wire access box located directly above the utility, at the edge of the road right-of-way, but out of the roadway. (See Trace wire Termination/Access)
- vii. At all mainline dead-ends, trace wire shall go to ground using an approved connection to a drive-in magnesium grounding anode rod, buried at the same depth as the trace wire. (See Grounding)
- viii. Mainline trace wire shall not be connected to existing conductive pipes. Treat as a mainline deadend, ground using an approved waterproof connection to a grounding anode buried at the same depth as the trace wire.
- ix. All service lateral trace wires shall be a single wire, connected to the mainline trace wire using a mainline to lateral lug connector, installed without cutting/splicing the mainline trace wire.
- x. In occurrences where an existing trace wire is encountered on an existing utility that is being extended or tied into, the new trace wire and existing trace wire shall be connected using approved splice connectors, and shall be properly grounded at the splice location as specified.

2. Water System

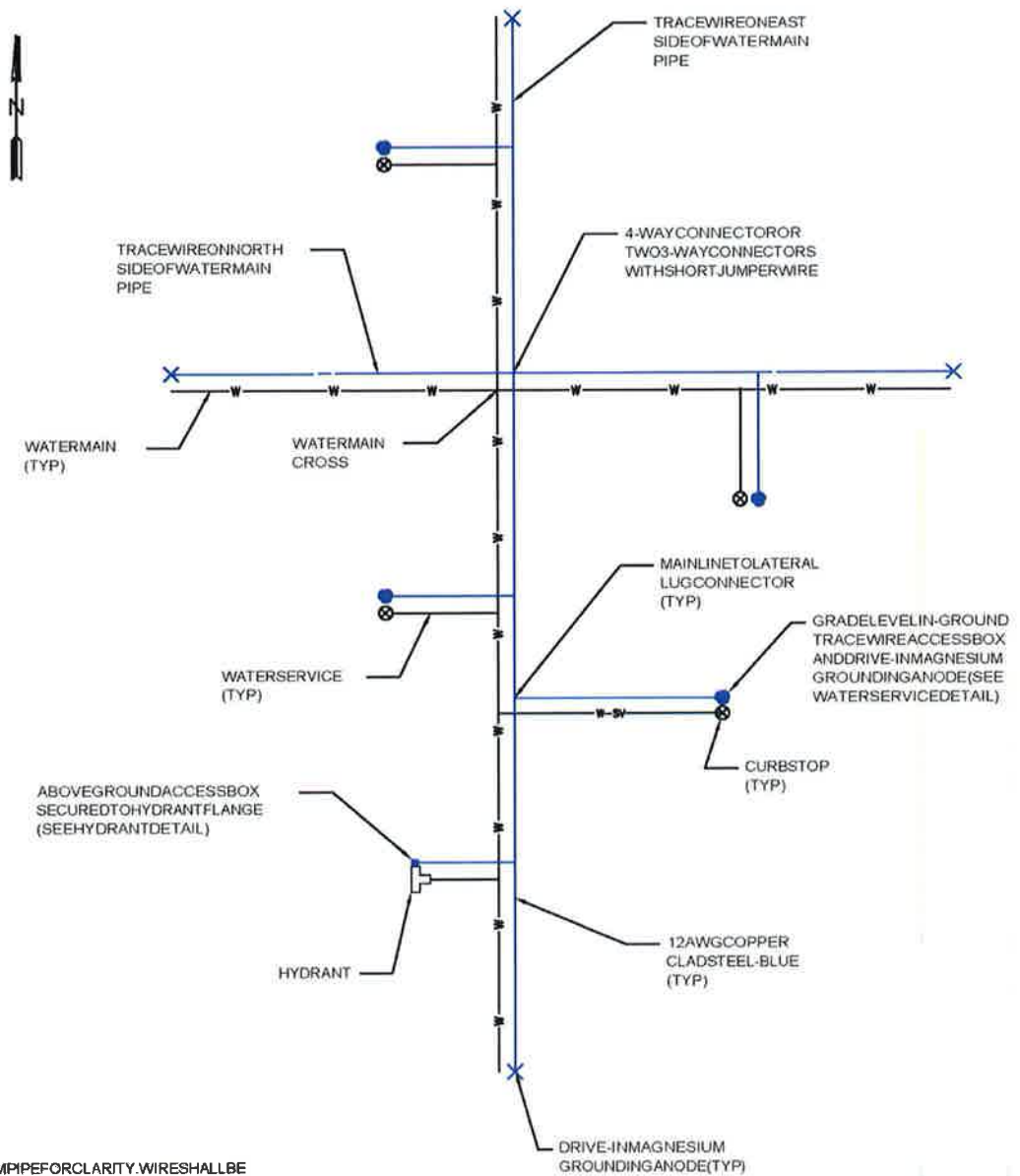
- i. A mainline trace wire must be installed, with all service lateral trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point.
- ii. Lay mainline trace wire continuously, by-passing around the outside of valves and fittings on the North or East side.
- iii. Trace wire on all water service laterals must terminate at an approved trace wire access box color coded blue and located directly above the service lateral at the edge of road right of way.
- iv. Above-ground tracer wire access boxes will be installed on all fire hydrants.
- v. All conductive and non-conductive service lines shall include tracer wire.

c. Prohibited Products and Methods

1. The following products and methods shall not be allowed or acceptable
 - i. Uninsulated trace wire
 - ii. Trace wire insulations other than HDPE
 - iii. Trace wires not domestically manufactured
 - iv. Non locking, friction fit, twist on or taped connectors
 - v. Brass or copper ground rods
 - vi. Wire connections utilizing taping or spray-on waterproofing
 - vii. Looped wire or continuous wire installations, that has multiple wires laid side-by-side or in close proximity to one another
 - viii. Trace wire wrapped around the corresponding utility
 - ix. Brass fittings with trace wire connection lugs
 - x. Wire terminations within the roadway, i.e. in valve boxes, cleanouts, manholes, etc.
 - xi. Connecting trace wire to existing conductive utilities

d. Testing

1. All new trace wire installations shall be located using typical low frequency (512Hz) line tracing equipment, witnessed by the contractor, engineer and facility owner as applicable, prior to acceptance of ownership.
2. This verification shall be performed upon completion of rough grading and again prior to final acceptance of the project.
3. Continuity testing in lieu of actual line tracing shall not be accepted.

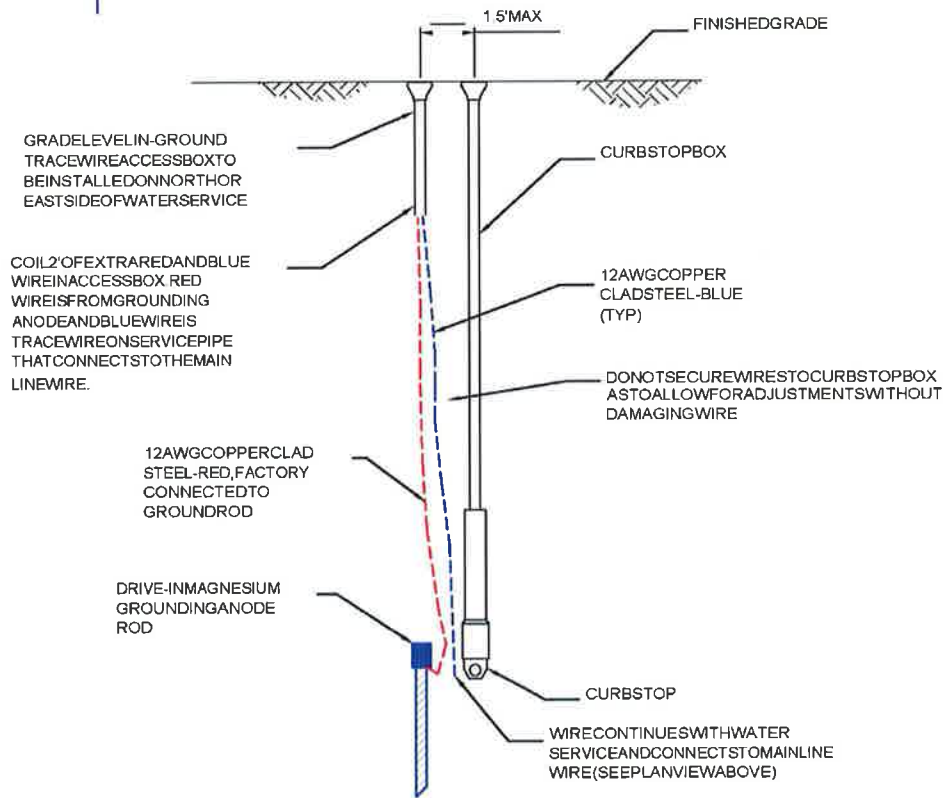
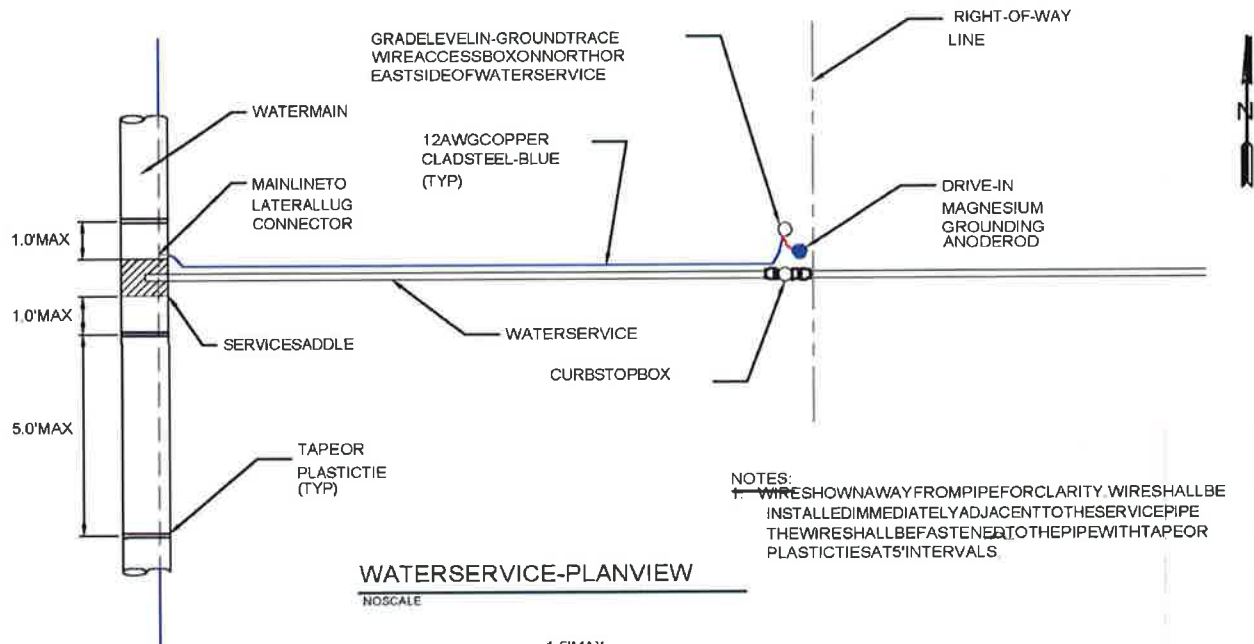


NOTES:

1. WIRES SHOWN AWAY FROM PIPE FOR CLARITY. WIRES SHALL BE INSTALLED ON THE BOTTOM SIDE OF THE PIPE BELOW THE SPRING LINE. THE WIRES SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS.

TRACE WIRE PLAN (WATER)

NO SCALE





SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

COMPREHENSIVE SEWER IMPROVEMENTS

PHASE V

**DOGWOOD DRIVE, RICHBURG ROAD, CORRINE STREET, EMERALD LANE,
DUKE AVENUE, PECAN GROVE DRIVE, MEADOWBROOK DRIVE, SPRINGHILL
DRIVE, OAK FORREST DRIVE, RHODES DRIVE AND, J. ED TURNER DRIVE**

FOR THE

**CITY OF HATTIESBURG
FORREST & LAMAR COUNTIES
MISSISSIPPI**

JANUARY 2017



PREPARED BY:

**SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS
301 SECOND AVENUE
HATTIESBURG, MISSISSIPPI
(601) 544-1821**

ADDENDUM No. 4
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V

CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

- CHANGE No. 1 -** The project shall be modified to eliminate Site No. 4 and Site No. 5. The enclosed proposal shall replace the proposal included in the specifications.
- CHANGE No. 2 -** All ductile iron fittings and pipe shall be lined with Protecto 401
- CHANGE No. 3 -** P-trap between lift station and valve pit shall be constructed with schedule 40 PVC pipe and fittings.
- CHANGE No. 4 -** All disturbed areas located at the lift station site shall be seeded and fertilized per the plans and specifications. Also, an Excelsior blanket shall be installed on these areas.
- Excelsior Blanket
Technical Specifications
- Recommended Slope: 3:1
Recommended Flow: 6 fps (2.1 m/s)
Netting: Photodegradable Polypropylene Plastic
Matrix: 100% Excelsior Wood Fiber, 0.73 lbs/yd²

SHOWS, DEARMAN & WAITS, INC.

CITY OF HATTIESBURG

by:

Kyle Wallace, E.E. ENGINEER

by:

Kermas Eaton, City Clerk

Dated this 12 day of May 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C.B. DEVELOPERS, INC.

Signature: 

Title: Project Manager

Proposal			
Comprehensive Sewer Improvements - Phase V			
City of Hattiesburg			
Site 1: Dogwood Drive Area		Subtotal	537,754.81
Site 2-3: Corrine Street, Emerald Lane & Duke Avenue		Subtotal	539,485.69
		Total:	1,077,240.50

The City of Hattiesburg reserves the right to award any site or combination of sites. No site will be considered as a base bid. Contractors should price each site as independent of other sites. The contract shall include tracer wire system as outlined in the specifications for all gravity, force main and sewer services. Cost shall be included in the project.

Site No. 2-3 shall be completed prior to Site No. 1 (if both sites are awarded)

Proposal					
Site 1 - Dogwood Drive Area					
Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	4" 160 PSI PVC Sanitary Sewer Force Main (All Depths)	Lin. Ft.	1,000	7.84	7840.00
2	8" SDR 26 PVC Sewer Pipe (0'-6")	Lin. Ft.	1,098	24.16	26527.68
3	8" SDR 26 PVC Sewer Pipe (6'-8")	Lin. Ft.	601	26.56	15962.56
4	8" SDR 26 PVC Sewer Pipe (8'-10")	Lin. Ft.	123	38.55	4741.65
5	8" SDR 26 PVC Sewer Pipe (10'-12")	Lin. Ft.	101	43.34	4377.34
6	8" SDR 26 PVC Sewer Pipe (12'-14")	Lin. Ft.	135	48.14	6498.90
7	Air Release and Vacuum Valve Assembly (Including Precast Concrete Manhole)	Each	1	4189.24	4189.24
Manhole Items					
8	48" Precast Concrete Sewer Manhole (0'-6")	Each	3	2689.82	8069.46
9	48" Precast Concrete Sewer Manhole (6'-8")	Each	8	3176.78	25414.24
10	48" Precast Concrete Sewer Manhole (8'-10")	Each	1	3658.87	3658.87
11	48" Precast Concrete Sewer Manhole (10'-12")	Each	1	4190.30 ^{ML}	4190.30
12	48" Precast Concrete Sewer Manhole (12'-14")	Each	1	4382.73	4382.73
Sewer Service Items					
13	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	942	10.60	9985.20
14	8"x8"x6" PVC Tee	Each	8	323.75	2590.00
15	6" PVC Cleanout	Each	8	359.74	2877.92

[illegible]

Proposal					
Site 2-3 - Corrine Street, Emerald Lane & Duke Avenue					
Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	243	24.46	5943.78
2	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	635	26.56	16865.60
3	8" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	125	28.95	3618.75
4	8" SDR 26 PVC Sewer Pipe (12'-14')	Lin. Ft.	137	31.35	4294.95
5	8" SDR 26 PVC Sewer Pipe (14'-16')	Lin. Ft.	102	36.15	3687.30
6	8" SDR 26 PVC Sewer Pipe (16'-18')	Lin. Ft.	187	40.94	7655.78
7	8" SDR 11 HDPE Sewer Service Bore	Lin. Ft.	275	59.47	16354.25
8	15" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	733	38.50	28220.50
9	15" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	336	43.29	14545.44
10	15" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	225	48.09	10820.25
11	24" Steel Casing (Bored)	Lin. Ft.	60	213.46	12807.60
Manhole Items					
12	48" Precast Concrete Sewer Manhole (8'-10')	Each	3	3179.29	9537.87
13	48" Precast Concrete Sewer Manhole (12'-14')	Each	1	3643.36	3643.36
14	48" Precast Concrete Sewer Manhole (14'-16')	Each	1	4675.87	4675.87
15	60" Precast Concrete Sewer Manhole (6'-8')	Each	3	4615.92	13847.76
16	60" Precast Concrete Sewer Manhole (10'-12')	Each	2	4991.79	9983.58
17	Drop Manhole Assembly (All Depths)	Each	3	869.23	2607.69
18	Demolition and Removal of Existing Sewer Manhole	Each	8	1498.68	11989.44
Sewer Service Items					
19	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	270	10.56	2851.20
20	8"x8"x6" PVC Tee	Each	3	323.75	971.25
21	Service Connection (Insert a Tee)	Each	6	585.08	3510.48
22	6" PVC Cleanout	Each	9	370.47	3334.23

	Miscellaneous Construction Items							
23	Water Service Repair (Including Service Tubing, Fittings, Corp Stop, Curb Stop, Tapping Saddle, Etc)	Each	8	669.01	5352.08			
24	Crushed Aggregate (Size 825)	Ton	1,387	44.96	62359.52			
25	Select Fill Material (Class 9, Group C), LVM	Cu. Yd.	8,090	11.39	92145.10			
26	Hot Mix Asphalt, ST, 9.5mm	Tons	530	167.85	88960.50			
27	Concrete Pavement Repair (All Depths)	Sq. Yd.	25	59.95	1498.75			
28	Removal of Cross Drains (All Types and Sizes)	Lin. Ft.	180	11.99	2158.20			
29	12" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	24	39.57	949.68			
30	18" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	64	43.16	2762.24			
31	21" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	40	52.75	2110.00			
32	24" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	48	70.34	3395.52			
33	Class "B" Concrete, Minor Structures	Cu. Yd.	1	2381.10	2381.10			
34	Grassing	Lump Sum	1	3896.56	3896.56			
35	Erosion Control	Lump Sum	1	7793.11	7793.11			
36	Mobilization	Lump Sum	1	41962.90	41962.90			
37	Maintenance of Traffic	Lump Sum	1	29973.50	29973.50			
				Subtotal (Site 2-3): 539,485.69				

ADDENDUM No. 3
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V

CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to May 18, 2017. Bid time, location, etc shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

CITY OF HATTIESBURG

by:

Kyle Wallace, P.E.

12593

by:

Kermas Eaton, City Clerk

Dated this 8th day of May, 2017.

**The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.**

Contractor: C. B. DEVELOPERS, INC.

Signature: 

Title: Project Manager

ADDENDUM No. 2
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V

CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to May 11, 2017. Bid time, location, etc shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

CITY OF HATTIESBURG

by:



Kyle Wallace, P.E.

by:



Kermas Eaton, City Clerk

Dated this 1st day of May, 2017.

12693

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C.B. DEVELOPERS, INC.

Signature: 

Title: Project Manager

ADDENDUM No. 1
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V

CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to May 4, 2017. Bid time, location, etc shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

by:

Kyle Wallace, P.E.

CITY OF HATTIESBURG

by:

Kermas Eaton, City Clerk

Dated this 30th day of March, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C. B. DEVELOPERS, INC.

Signature: [Signature]

Title: Project Manager

SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V
DOGWOOD DRIVE, RICHBURG ROAD, CORRINE STREET, EMERALD LANE,
DUKE AVENUE, PECAN GROVE DRIVE, MEADOWBROOK DRIVE, SPRINGHILL
DRIVE, OAK FORREST DRIVE, RHODES DRIVE AND, J. ED TURNER DRIVE

FOR THE
CITY OF HATTIESBURG
FORREST & LAMAR COUNTIES
MISSISSIPPI

JANUARY 2017



PREPARED BY:
SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS
301 SECOND AVENUE
HATTIESBURG, MISSISSIPPI
(601) 544-1821

INDEX

ADVERTISEMENT FOR BIDS	1
INFORMATION FOR BIDDERS	2 - 4
PROPOSAL FORM	5
PROPOSAL	6 - 14
BID BOND	15 - 16
CONTRACT AGREEMENT	17- 19
PAYMENT & PERFORMANCE BOND	20- 21
NOTICE OF AWARD	22
NOTICE TO PROCEED	23
GENERAL CONDITIONS	GC-1 - GC-36
MEASUREMENT AND PAYMENT	MP-1 - MP-4
TECHNICAL SPECIFICATIONS	TS-1- TS-114
Sanitary Sewerage Systems	
Standard Specifications for Lining Ductile Iron Pipe for Sewer Service	
Manholes	
Restoration of Roads, Driveways, Fences, Lawns & Other Grassed Areas	
Concrete	
Seeding and Sodding	
Specification for Connection to Mainline Pipe (Insert-A-Tee)	
Sewage Pumping Station	
Dogwood Drive Pump Station	
Grouted Riprap	
Water Systems	

ADVERTISEMENT FOR BIDS:

NOTICE is hereby given that the City Clerk of the City of Hattiesburg, Mississippi, will receive sealed bids until **10:00 a.m. on April 6, 2017** in the City Clerk's Office in the City Hall of said City for furnishing the City's requirements for the following:

**COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V
HATTIESBURG, MISSISSIPPI**

Plans, Specifications and proposal forms may be obtained from Shows, Dearman & Waits, Inc., P. O. Box 1711, 301 Second Avenue, Hattiesburg, Mississippi, 39403, upon deposit of \$150.00, non-refundable. All bids must be accompanied by bid security equal to 5% of the amount of the bid, in the form of a certified check, cashier's check or a bid bond written by a company properly licensed in Mississippi.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner EXACTLY as follows:

BID:

**COMPREHENSIVE SEWER IMPROVEMENTS
PHASE V
HATTIESBURG, MISSISSIPPI**

No bid may be withdrawn for a period of sixty (60) days. The lowest and best proposal received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated and Amended, and other applicable State law; but the Council reserves the right to reject any or all proposals received and to waive informalities.

PUBLISHED by Order of the Council on the 21 day of February A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: _____
Kermas Eaton, City Clerk

Publish on March 2, 2017 and March 9, 2017
City of Hattiesburg
Return PROOF to City Clerk's Office
PO Box 1898
Hattiesburg, MS 39403-1898

INFORMATION FOR BIDDERS

BIDS will be received by CITY OF HATTIESBURG, MISSISSIPPI herein called the "OWNER", at City Hall until **10:00 a.m. on April 6, 2017**, and then at said office publicly opened and read aloud.

Each BID must be submitted in sealed envelope, addressed to City of Hattiesburg. Each sealed envelope containing a BID must be plainly marked on the outside as BID for **COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V** and the envelope should bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed addressed to the Owner at P. O. Box 1898, Hattiesburg, MS 39403.

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a BID BOND payable to the OWNER for five percent (5%) of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsive, responsible BIDDERS. When the Agreement is executed the BONDS of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be

returned. A certified check may be used in lieu of a BID BOND.

A PERFORMANCE BOND and a PAYMENT BOND, each in the amount of 100 percent (100%) of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dates copy of their Power of Attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible BIDDER.

All applicable Laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

FURTHER, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER is SHOWS, DEARMAN & WAITS, INC. The address of the ENGINEER is 301 2nd Avenue, Hattiesburg, Mississippi.

PROPOSAL FORM

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 300 calendar days thereafter.

It is understood that the quantities of work listed for unit prices bid are approximate, and are intended to merely indicate the general scope of the various items entering into the complete work. It is further understood and agreed that the Owner may increase or decrease the quantities listed in the Proposal to an extent equivalent to 30% of the bid price (in dollars) and that no change in the unit prices proposed shall be occasioned thereby.

The undersigned further agrees that the unit and lump sum prices quoted include all items of work required or necessary for the accomplishment of the projected work and that these items include all work indicated on the Plans and Specifications for which no specific pay items have been established.

The undersigned understands the City of Hattiesburg to choose any Alternate Bid Package. The Contract shall be awarded to the low bidder in the Alternate selected by the Owner.

The undersigned certifies that the bid prices contained herein have been carefully checked and are submitted as correct and final.

If within thirty (30) days the scheduled closing time for receipt of bids, this Proposal is accepted, the undersigned will execute a formal contract within seven (7) days after official notification thereof, will deliver a surety bond for the faithful performance of this contract, and will complete the work within the time specified from the date of execution of the contract.

Respectfully Submitted,

C.B. Developers

Name of Firm or Bidder

By:

[Signature]

1716 EVELYN GANDY PARKWAY SUITE 40
ADDRESS HATTIESBURG, MS 39401

Proposal		
Comprehensive Sewer Improvements - Phase V		
City of Hattiesburg		
Site 1: Dogwood Drive Area		Subtotal
Site 2-3: Corrine Street, Emerald Lane & Duke Avenue		Subtotal
Site 4: Meadow Brook Drive Area		Subtotal
Site 5: J Ed Turner Drive		Subtotal
Total:		

The City of Hattiesburg reserves the right to award any site or combination of sites. No site will be considered as a base bid. Contractors should price each site as independent of other sites. The contract shall include tracer wire system as outlined in the specifications for all gravity, force main and sewer services. Cost shall be included in the project.

Proposal**Site 1 - Dogwood Drive Area**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	4" 160 PSI PVC Sanitary Sewer Force Main (All Depths)	Lin. Ft.	1,000		
2	8" SDR 26 PVC Sewer Pipe (0'-6')	Lin. Ft.	1,098		
3	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	601		
4	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	123		
5	8" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	101		
6	8" SDR 26 PVC Sewer Pipe (12'-14')	Lin. Ft.	135		
7	Air Release and Vacuum Valve Assembly (Including Precast Concrete Manhole)	Each	1		
Manhole Items					
8	48" Precast Concrete Sewer Manhole (0'-6')	Each	3		
9	48" Precast Concrete Sewer Manhole (6'-8')	Each	8		
10	48" Precast Concrete Sewer Manhole (8'-10')	Each	1		
11	48" Precast Concrete Sewer Manhole (10'-12')	Each	1		
12	48" Precast Concrete Sewer Manhole (12'-14')	Each	1		
Sewer Service Items					
13	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	942		
14	8"x8"x6" PVC Tee	Each	8		
15	6" PVC Cleanout	Each	8		

[illegible]

Proposal**Site 2-3 - Corrine Street, Emerald Lane & Duke Avenue**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	243		
2	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	635		
3	8" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	125		
4	8" SDR 26 PVC Sewer Pipe (12'-14')	Lin. Ft.	137		
5	8" SDR 26 PVC Sewer Pipe (14'-16')	Lin. Ft.	102		
6	8" SDR 26 PVC Sewer Pipe (16'-18')	Lin. Ft.	187		
7	8" SDR 11 HDPE Sewer Service Bore	Lin. Ft.	275		
8	15" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	733		
9	15" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	336		
10	15" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	225		
11	24" Steel Casing (Bored)	Lin. Ft.	60		
Manhole Items					
12	48" Precast Concrete Sewer Manhole (8'-10')	Each	3		
13	48" Precast Concrete Sewer Manhole (12'-14')	Each	1		
14	48" Precast Concrete Sewer Manhole (14'-16')	Each	1		
15	60" Precast Concrete Sewer Manhole (6'-8')	Each	3		
16	60" Precast Concrete Sewer Manhole (10'-12')	Each	2		
17	Drop Manhole Assembly (All Depths)	Each	3		
18	Demolition and Removal of Existing Sewer Manhole	Each	8		
Sewer Service Items					
19	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	270		
20	8"x8"x6" PVC Tee	Each	3		
21	Service Connection (Insert a Tee)	Each	6		
22	6" PVC Cleanout	Each	9		

	Miscellaneous Construction Items						
23	Water Service Repair (Including Service Tubing, Fittings, Corp Stop, Curb Stop, Tapping Saddle, Etc)	Each	8				
24	Crushed Aggregate (Size 825)	Ton	1,387				
25	Select Fill Material (Class 9, Group C), LVM	Cu. Yd.	8,090				
26	Hot Mix Asphalt, ST, 9.5mm	Tons	530				
27	Concrete Pavement Repair (All Depths)	Sq. Yd.	25				
28	Removal of Cross Drains (All Types and Sizes)	Lin. Ft.	180				
29	12" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	24				
30	18" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	64				
31	21" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	40				
32	24" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	48				
33	Class "B" Concrete, Minor Structures	Cu. Yd.	1				
34	Grassing	Lump Sum	1				
35	Erosion Control	Lump Sum	1				
36	Mobilization	Lump Sum	1				
37	Maintenance of Traffic	Lump Sum	1				
				Subtotal (Site 2-3):			

Proposal**Site 4 - Meadow Brook Drive Area**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	8" SDR 26 PVC Sewer Pipe (0'-6')	Lin. Ft.	667		
2	8" SDR 26 PVC Sewer Pipe (6'-8')	Lin. Ft.	169		
3	8" SDR 26 PVC Sewer Pipe (8'-10')	Lin. Ft.	82		
4	10" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	20		
5	12" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	20		
6	12" SDR 26 PVC Sewer Pipe (12'-14')	Lin. Ft.	40		
7	15" SDR 26 PVC Sewer Pipe (10'-12')	Lin. Ft.	20		
8	18" PSI-115 PVC Sewer Pipe (0'-6')	Lin. Ft.	679		
9	18" PSI-115 PVC Sewer Pipe (6'-8')	Lin. Ft.	173		
10	18" PSI-115 PVC Sewer Pipe (8'-10')	Lin. Ft.	456		
11	18" PSI-115 PVC Sewer Pipe (10'-12')	Lin. Ft.	1,099		
12	18" PSI-115 PVC Sewer Pipe (12'-14')	Lin. Ft.	818		
13	18" PSI-115 PVC Sewer Pipe (14'-16')	Lin. Ft.	418		
14	18" PSI-115 PVC Sewer Pipe (16'-18')	Lin. Ft.	747		
15	18" PSI-115 PVC Sewer Pipe (18'-20')	Lin. Ft.	168		
16	18" PSI-115 PVC Sewer Pipe (20'-22')	Lin. Ft.	481		
17	24" Steel Casing (Open Cut)	Lin. Ft.	100		
18	Removal of Sewer Pipe Through Existing Box Culvert (Incl Patchwork)	Lin. Ft.	30		
Manhole Items					
19	48" Precast Concrete Sewer Manhole (6'-8')	Each	1		
20	60" Precast Concrete Sewer Manhole (10'-12')	Each	6		
21	60" Precast Concrete Sewer Manhole (12'-14')	Each	2		
22	60" Precast Concrete Sewer Manhole (14'-16')	Each	3		
23	60" Precast Concrete Sewer Manhole (16'-18')	Each	2		
24	60" Precast Concrete Sewer Manhole (20'-22')	Each	2		
25	72" Precast Concrete Sewer Manhole (10'-12')	Each	1		
26	72" Precast Concrete Sewer Manhole (16'-18')	Each	1		
27	Demolition and Removal of Existing Sanitary Manholes (All Types)	Each	16		
28	Drop Manhole Assembly (All Depths)	Each	11		

Proposal**Site 4 - Meadow Brook Drive Area**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Service Items					
29	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	1,770		
30	Service Connection (Insert a Tee)	Each	61		
31	6" PVC Cleanout	Each	61		
Miscellaneous Construction Items					
32	Crushed Aggregate (Size 825)	Ton	1,793		
33	Select Fill Material (Class 9, Group C), LVM	Cu. Yd.	15,440		
34	Concrete Side Walk Repair (All Depths)	Sq. Yd.	43		
35	Concrete Pavement Repair (All Depths)	Sq. Yd.	642		
36	Hot Mix Asphalt, ST, 9.5mm	Tons	876		
37	Grouted Rip Rap, Size 200 w/ Geotextile Fabric	Sq. Yd.	206		
38	Remove and Reset Rip Rap w/ Geotextile Fabric and Grout	Sq. Yd.	20		
39	Removal of Existing Steel Casing	LF	42		
40	Remove and Replace Existing Wood Fence	LF	40		
41	Removal of Existing Side Drains	LF	502		
42	Removal of Cross Drains (All Types and Sizes)	Lin. Ft.	56		
43	10" Corrugated HDPE Pipe	Lin. Ft.	8		
44	12" Corrugated HDPE Pipe	Lin. Ft.	197		
45	18" Corrugated HDPE Pipe	Lin. Ft.	60		
46	12" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	56		
47	30" Reinforced Concrete Pipe, Class III, Rubber Gaskets	Lin. Ft.	32		
48	Class "B" Concrete, Minor Structures	Cu. Yd.	5		
49	Clearing and Grubbing	Lump Sum	1		
50	Grassing	Lump Sum	1		
51	Erosion Control	Lump Sum	1		
52	Mobilization	Lump Sum	1		
53	Maintenance of Traffic	Lump Sum	1		
				Subtotal (Site 4):	

Proposal**Site 5 - J Ed Turner Drive**

Item	Description	Unit	Quantity	Unit Price	Extension
Sewer Pipe Items					
1	4" Sanitary Sewer Force Main	Lin. Ft.	20		
2	6" Sanitary Sewer Force Main	Lin. Ft.	30		
3	8" Ductile Iron Sewer Pipe (0'-6")	Lin. Ft.	387		
4	8" Ductile Iron Sewer Pipe (6'-8")	Lin. Ft.	13		
5	8" SDR 26 PVC Sewer Pipe (0'-6")	Lin. Ft.	670		
6	8" SDR 26 PVC Sewer Pipe (6'-8")	Lin. Ft.	416		
7	8" SDR 26 PVC Sewer Pipe (8'-10")	Lin. Ft.	107		
8	Concrete Encasement for Sewer Line (Per Plans)	Lin. Ft.	160		
Manhole Items					
9	48" Precast Concrete Sewer Manhole (0'-6")	Each	1		
10	48" Precast Concrete Sewer Manhole (6'-8")	Each	3		
11	48" Doghouse Concrete Sewer Manhole (6'-8")	Each	1		
12	48" Flattop Precast Concrete Sewer Manhole (0'-6")	Each	1		
13	Demolition and Removal of Existing Sewer Manhole	Each	1		
Sewer Service Items					
14	6" SDR 26 PVC Sewer Pipe for Services (All Depths)	Lin. Ft.	126		
15	8"x8"x6" PVC Tee	Each	4		
16	6" PVC Cleanout	Each	4		

	Miscellaneous Construction Items					
17	Water Service Repair (Including Service Tubing, Fittings, Corp Stop, Curb Stop, Tapping Saddle, Etc)			3		
18	Concrete Pavement Repair (All Depths)	Sq. Yd.		20		
19	Hot Mix Asphalt, ST, 9.5mm	Tons		10		
19	Clearing and Grubbing	Lump Sum		1		
21	Grassing	Lump Sum		1		
22	Erosion Control	Lump Sum		1		
23	Mobilization	Lump Sum		1		
24	Maintenance of Traffic	Lump Sum		1		
		Subtotal (Site 5):				

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, C.B. Developers, Inc.
as Principal, and Arch Insurance Company
as Surety, are hereby held and firmly bound unto City of Hattiesburg as Owner, in the penal sum
of Five Percent of Amount Bid DOLLARS
(5%) for the payment of which, well and truly to be made, we
hereby jointly and severally bind ourselves, successors and assigns. Signed, this
18th day of May, 2017. The condition of the above obligation is
such that whereas the Principal has submitted to City of Hattiesburg
a certain BID, attached hereto and hereby made a part hereof to enter
into a contract in writing for the Comprehensive Sewer Improvements

NOW, THEREFORE,

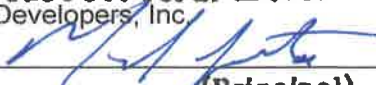
- (a) If said BID shall be rejected, or
(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID.

Then this obligation, shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way be impaired or affected by an extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper offices, the day and year first set forth above.

C.B. Developers, Inc.

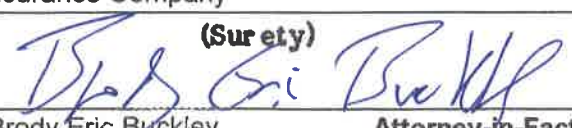
By: 

(Principal)

(L.S.)

Arch Insurance Company

(Surety)

By: 

Brody Eric Buckley

Attorney-in-Fact

Resident MS Agent/Bottrell Insurance

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we, the undersigned, Principal, and _____ as Surety, are hereby held and firmly bound unto _____ as Owner in the penal sum of _____ for payment of which, well and truly made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20__.

The Condition of the above obligation is such that whereas the Principal has submitted to a center BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for the

COMPREHENSIVE SEWER IMPROVEMENTS PHASE V

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year set forth above.

_____(L.S.)
PRINCIPAL

SURETY

BY: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasure Department's most current line (Circular 570 as amended) and be authorized to transact business in the State where the project is located.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Brody Eric Buckley

its true and lawful Attorney(s)-in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations.

Surety Bond Number: Bid Bond

Principal: C.B. Developers, Inc.

Obligee: City of Hattiesburg

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

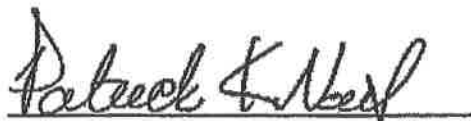
This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

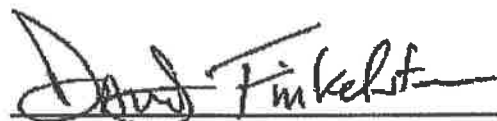
In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this 18th day of May, 2017.

Attested and Certified

Arch Insurance Company



Patrick K. Nails, Secretary

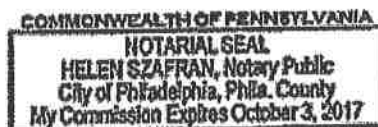
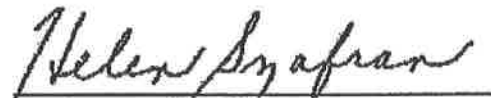



David M. Finkelstein, Executive Vice President

STATE OF PENNSYLVANIA SS

COUNTY OF PHILADELPHIA SS

I, Helen Szafran, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.

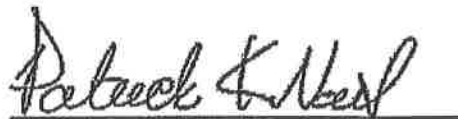



Helen Szafran, Notary Public
My commission expires 10/03/2017

CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated May 18, 2017 on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this 18th day of May, 2017.



Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance – Surety Division
3 Parkway, Suite 1500
Philadelphia, PA 19102



C. B. DEVELOPERS, INC.
938 OLD RIFLE RANGE RD.
PETAL, MS 39465

Ph. 601-582-1600

Ph 601-583-0005

Fax 601-583-0009

Cs@cbdevelopers.com

STATE OF MISSISSIPPI
FORREST COUNTY

RESOLUTION

BE IT RESOLVED THAT Mack Lister IS HEREBY AUTHORIZED, EMPOWERED AND DIRECTED TO EXECUTE FOR AND ON BEHALF OF C.B. Developers, Inc., a corporation, any and all bid and job specific documents including but not limited to price sheets, change orders, certification, addendum, contracts, agreements, and official letters.

C. B. DEVELOPERS, INC.



BY: SHERRY BRELAND

TITLE: PRESIDENT

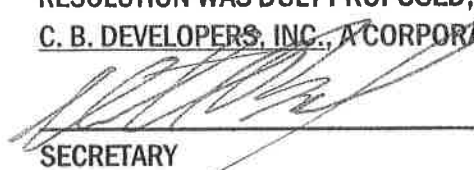
C. B. DEVELOPERS, INC.



BY: CLIFF BRELAND

TITLE: VICE-PRESIDENT

I, Cliff Breland, as secretary of C. B. DEVELOPERS, INC. DO HEREBY CERTIFY THAT THE ABOVE RESOLUTION WAS DULY PROPOSED, ADOPTED, AND RESOLVED, DURING A SPECIAL MEETING OF C. B. DEVELOPERS, INC., A CORPORATION, ON THIS THE 18TH DAY OF June, 2012.


SECRETARY

CONTRACT AGREEMENT

THIS AGREEMENT, made and entered into this ____ day of _____, 20____ by and between C.B. Developers, Inc. hereinafter called the CONTRACTOR, CITY OF HATTIESBURG hereinafter called the OWNER, Witnesseth that the Contractor and the OWNER, for the consideration hereafter named and agrees as follows.

ARTICLE 1: SCOPE OF WORK

The Contractor agrees to furnish all tools, labor, equipment, materials, and supplies required to be furnished, and perform all work required under and in accordance with the plans entitled

COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V

which are on file at the office of the OWNER, and the Specifications, Proposals, General and Special Conditions, attached hereto and made a part hereof as fully as though copied herein, under the direct supervision and to the entire satisfaction of the OWNER and in accordance with the Laws of the State of Mississippi.

ARTICLE 2: THE CONTRACT SUM

It is further agreed and understood by and between the parties hereunto that the OWNER agrees to pay and the Contractor agrees to accept full and final compensation for all work done under this agreement, the lump sum amount adjusted for variation of quantities at the unit prices named in the Proposal, which is hereto attached, such payment to be made in lawful money of the United States, at the time and in the manner hereinafter set forth.

ARTICLE 3: TIME OF COMPLETION

The Contractor agrees, for the consideration above expressed, to begin and complete the work within the time specified in the Proposal. If the Contractor fails to complete the work in the time specified, he shall pay the OWNER as **liquidated damages**, ascertained and agreed, and not in the nature of a penalty, the sum of \$ 750.00 for each day delayed, which shall be deducted from the final amount to be paid under the contract; provided that the extension of time with the waiver of liquidation damages may be granted as provided for in the Specifications.

ARTICLE 4: PROGRESS PAYMENTS

The owner agrees to make progress payments during the construction as provided herein as follows:

The ENGINEER will on or before the tenth (10th) day of each month make an estimate of the value of the work done, based on contract prices.

The OWNER agrees to pay the CONTRACTOR 100% of the value of the work done each month, less ten percent (10%) retainage until final acceptance of the work has been made).

ARTICLE 5: ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final acceptance and inspection, the Engineer shall promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he shall promptly issue a final certificate, over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof. Then, the entire balance shall be due the Contractor within thirty (60) days the date of said final acceptance.

Before issuance of final certificate, the Contractor shall submit evidence satisfactory to the ENGINEER that all payrolls, materials, bills, and other indebtedness connected with the work have been paid.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER, other than those arising from unsettled liens, from faulty work or materials appearing within one (1) year after payment, or claims previously made and still unsettled.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Engineer, so certifies, the OWNER shall, upon certificate of the Engineer and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE 6: THE PERFORMANCE BOND

The Contractor agrees to furnish a bond, with an approved surety thereon guaranteeing the performance of this contract, in no less than one hundred percent (100%) of the amount of the Contract. Said Bond shall be conditioned on full and complete performance of the Contract, and for the payment of all labor and materials for a period of one (1) year after completion. The Surety on said Bond shall be a surety company of financial resources satisfactory to the OWNER and authorized to do business in the State of Mississippi.

ARTICLE 7 INSURANCE

The Contractor agrees to also carry Public Liability Insurance, Property Damage Insurance, and Workman's Compensation Insurance in amounts as required by the Specifications.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

OWNERS:

City of Hattiesburg

SEAL

BY



Title Mayor

ATTEST



CONTRACTOR

C.B. Developers, Inc.

SEAL

BY



Title Project MANAGER

ATTEST



PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: THAT WE, the Undersigned (hereinafter called the Principal), a corporation, partnership or individual duly unauthorized by law to do business as a construction contractor in the State of Mississippi, and of Arch Insurance Company (herein called the Surety), a corporation duly authorized to do a surety business under the laws of the State of Mississippi, are held and firmly bound unto the City of Hattiesburg, (hereinafter called the Obligee), a Mississippi Corporation existing under the laws of the State of Mississippi, in the penal sum of Dollars (\$1,077,240.50) lawful money of the United States, for the payment of which well and truly to be made, the said Principal and the said Surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents, as follows:

The Condition of this obligation is such that; whereas Principal by an instrument in writing attached hereto and bearing date of has agreed with said Obligee to do all work necessary and to furnish labor, materials, tools, supplies and services to construct COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V as shown on Plans and specified thereby in the Specifications, Proposal and other Contract Documents hereto attached.

NOW THEREFORE, if said Principal shall well and truly in good, sufficient and workmanlike manner, and to the satisfaction of Obligee perform and complete the work required, and shall defend, indemnify and save harmless said Obligee against all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising out of injury or damage to persons or property by reason or arising from any act, omission or neglect of said Principal, his agent, servants or employees with relation to said work; and shall pay all cost, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to Obligee completed and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to Obligee by reason of any default or neglect of the said Principal in the relation of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said surety for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract, or the work to be performed thereunder, or the Specifications accompanying the same, shall in any way affect its obligation on this bond and does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

PROVIDED FURTHER, that if Principal, or his, or its subcontractor or subcontractors fail to duly pay for any labor, materials, team hire, sustenance provisions or any other supplies or

materials used or consumed by such Principal or his, their or its subcontractors in performance of the work contracted to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest as provided by law.

IN WITNESS THEREOF: Said Principal and surety have hereunto set their hands and seals at this _____ day of _____, 20_____.

(SEAL)

C.B. Developers, Inc.

PRINCIPAL

WITNESSES:

C. SF Bell
JR

1716 Evelyn Gandy Parkway, Suite 40, Hattiesburg, MS 39401

ADDRESS

[Signature]
Name of person executing for Principal

Project Manager
Title

Arch Insurance Company

SURETY

WITNESSES:

[Signature]
[Signature]
Peggy Jackson
Wes Price

Witness

Title

Harborside 3, 210 Hudson Street, Suite 300
Jersey City, NJ 07311-1107

ADDRESS

[Signature]
Name of person executing for Surety

Brody Eric Buckley/Attorney-in-Fact
Resident MS Agent/Bottrell Insurance
P.O. Box 1490
Jackson, MS 39215-1490

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Brody Eric Buckley

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations.

Surety Bond Number: SU 1145476

Principal: C.B. Developers, Inc.

Obligee: City of Hattiesburg

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

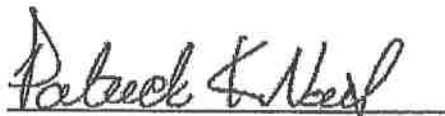
This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

In Testimony Whereof, the Company has caused this Instrument to be signed and its corporate seal to be affixed by their authorized officers, this _____ day of _____, 20____.

Attested and Certified

Arch Insurance Company

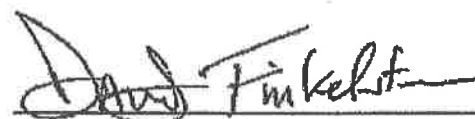


Patrick K. Nails, Secretary

STATE OF PENNSYLVANIA SS

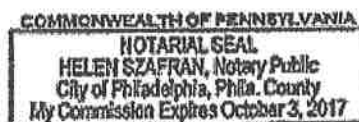
COUNTY OF PHILADELPHIA SS

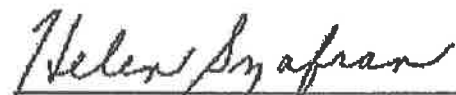




David M. Finkelstein, Executive Vice President

I, Helen Szafran, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.



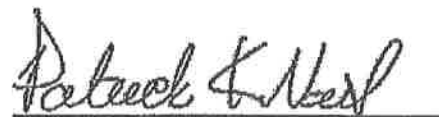


Helen Szafran, Notary Public
My commission expires 10/03/2017

CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated _____ on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this _____ day of _____, 20____.



Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance – Surety Division
3 Parkway, Suite 1500
Philadelphia, PA 19102





CBDEVEL-01

ACOOK

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

08/14/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Fisher Brown Bottrell Insurance, Inc. P. O. Box 1490 Jackson, MS 39215	CONTACT NAME: Angie Cook, CIC, PIAM PHONE (A/C, No, Ext): (601) 960-8244 FAX (A/C, No): (601) 208-3044 E-MAIL ADDRESS: acook@fbbins.com														
INSURED C B Developers, Inc. 1716 Evelyn Gandy Parkway, #40 Hattiesburg, MS 39401	<table border="1"><thead><tr><th>INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr></thead><tbody><tr><td>INSURER A : Brierfield Insurance Company</td><td>10993</td></tr><tr><td>INSURER B : American Interstate Insurance</td><td>31895</td></tr><tr><td>INSURER C : Travelers Property Casualty Company of America</td><td>25674</td></tr><tr><td>INSURER D :</td><td></td></tr><tr><td>INSURER E :</td><td></td></tr><tr><td>INSURER F :</td><td></td></tr></tbody></table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A : Brierfield Insurance Company	10993	INSURER B : American Interstate Insurance	31895	INSURER C : Travelers Property Casualty Company of America	25674	INSURER D :		INSURER E :		INSURER F :	
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INSURER D :															
INSURER E :															
INSURER F :															

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR ☒ PD Ded: \$2,000 GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PROJECT ☒ LOC OTHER:			GL0013568	05/17/2017	05/17/2018	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000
A	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY			CA10001384101	05/17/2017	05/17/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	☒ UMBRELLA LIAB ☒ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE DED ☒ RETENTION \$ 10,000			UMB0014332	05/17/2017	05/17/2018	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 Prod/Co Ops Agg \$ 5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) ☐ Y/N If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	AVWCMS2562322017	01/01/2017	01/01/2018	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	Leased/Rented Equip			CM0006842	05/17/2017	05/17/2018	Ded See Below 260,000
C	Installation Floater			6603222R85A	09/10/2016	09/10/2017	Ded: \$5,000 4,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
The above referenced general liability, automobile liability & Umbrella liability policies contain blanket additional insured wording where required by written contract. General Liability includes ongoing & completed operations & is on a primary/non-contributory basis where required by written contract. General Liability, Automobile Liability & Workers Compensation policies contain blanket waiver of subrogation wording when required by written contract. Additional Insured Status applies as per forms attached to the policy & available for review upon request: GL (CGL084 10/13 & CGL088 10/13) AUTO (CAU058 01/15) UMB (CU0001 12/07) All coverage is subject to policy terms, conditions and exclusions.

REFERENCE ONLY:
SEE ATTACHED ACORD 101

CERTIFICATE HOLDER

CANCELLATION

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403-1898

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



LOC #: 1

ADDITIONAL REMARKS SCHEDULE

Page 1 of 1

AGENCY Fisher Brown Bottrell Insurance, Inc.		NAMED INSURED C B Developers, Inc. 1716 Evelyn Gandy Parkway, #40 Hattiesburg, MS 39401	
POLICY NUMBER SEE PAGE 1			
CARRIER SEE PAGE 1	NAIC CODE SEE P 1	EFFECTIVE DATE: SEE PAGE 1	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles:

Project: Comprehensive Water Improvements - Phase II, Palmers Crossing and Irene Chapel

Project: Comprehensive Sewer Improvements - Phase V

Project: Comprehensive Water Improvements Phase IV Miscellaneous Connections

Project: Water Line Extension along Old Highway 98 East and W. L. Runnels Industrial Drive

Project: Comprehensive Water Improvements Phase I,

Project: 592 Program Sewer Rehabilitation, Contract No. 3, City of Hattiesburg, MS Contract amount \$1,996,351.79

Project: Water System Extension on Veteran's Memorial Blvd. and South 28th Ave \$1,361,828.84

NOTICE OF AWARD

TO: C.B. Developers, Inc.
1716 Evelyn Gandy Pkwy
Hattiesburg, MS 39401

Project: **COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V**

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated March 2, 2017, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$ 1,077,240.50.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this 19th day of September, 2017.

City of Hattiesburg

OWNER

By: 

Title: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by
This the _____ day of _____, 20____

Title: Project Manager

Signature: 

NOTICE TO PROCEED

TO: C.B. Developers, Inc. DATE: _____
1716 Evelyn Gandy Pkwy
Hattiesburg, MS 39401

Project: COMPREHENSIVE SEWER IMPROVEMENTS - PHASE V

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 20__ on or before _____, 20__, and you are to complete the WORK within 300 consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, 20__.

CITY OF HATTIESBURG
OWNER

BY: 
TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____ this the __ day of _____, 20__.

Title: Project manager

Signature: 

GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meaning indicated which shall be applicable to both the singular and plural thereof.

ACCEPTANCE: By the OWNER of the Work as being fully complete in accordance with the Contract Documents.

AGREEMENT: The written agreement between the OWNER and the CONTRACTOR covering the Work to be performed: the Contract Documents are attached to and made a part of the Agreement. Also designated as the Contract.

ADDENDA: Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by addition, deletions, clarifications or corrections.

APPLICATION FOR PAYMENT: The form furnished by the ENGINEER which is to be used by the CONTRACTOR in requesting progress payments and an affidavit of the CONTRACTOR that progress payments theretofore received from the OWNER on account of the WORK have been applied by the CONTRACTOR to discharge in full all of the CONTRACTOR'S obligations stated in prior Applications for Payment.

APPROVAL: Accept as satisfactory.

BID: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BIDDER: Any person, firm or corporation submitting a Bid for the Work.

BONDS: Bid, performance and payment bonds and other instruments of security furnished by the CONTRACTOR and his surety in accordance with the Contract Documents and in accordance with the law of the place of the project.

CHANGE ORDER: A written order to the CONTRACTOR signed by the OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

CONTRACT DOCUMENTS: The Agreement, Addenda, Instructions to Bidders, CONTRACTOR'S BID, the Bonds, the Notice of Award, these General Conditions, the Supplementary conditions, Special Conditions, Technical Conditions, the Specifications, Drawings and Modifications, and Notice to Proceed.

CONTRACT PRICE: The total moneys payable to the CONTRACTOR under the Contract Documents.

CONTRACT TIME: The number of calendar days stated in the Agreement for the completion of the Work.

CONTRACTING OFFICER: The owner (Grantee)- The individual who is authorized to sign the contract documents on behalf of the owner's governing body.

CONTRACTOR: The person, firm or corporation with whom the OWNER has executed the Agreement.

DAY: A calendar day of twenty-four hours measured from midnight to the next midnight.

DRAWINGS: The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the ENGINEER and are referred to in the Contract Documents.

ENGINEER: The person, firm or corporation named as such in the Contract Documents.

FIELD ORDER: A written order issued by the ENGINEER which clarifies or interprets the Contract Documents in accordance with Paragraph 9.3 or orders minor changes in the Work in accordance with paragraph 10.2.

MODIFICATION: (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order (c) a written clarification or interpretation issued by the ENGINEER in accordance with paragraph 9.3 or (d) a written order for a minor change or alteration in the Work issued by the ENGINEER pursuant to paragraph 10.2. A modification may only be issued after execution of the Agreement.

NOTICE OF AWARD: The written notice by OWNER to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by him within the time specified, OWNER will execute and deliver the Agreement to him.

NOTICE TO PROCEED: A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligations under the Contract Documents.

OWNER: A public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.

PROJECT: The entire construction to be performed as provided in the Contract Documents.

CONSTRUCTION OBSERVER
RESIDENT INSPECTOR
CONSTRUCTION INSPECTOR
PROJECT REPRESENTATIVE:

An authorized representative of the ENGINEER assigned to

observe the Work performed and materials furnished by the CONTRACTOR or such other person as may be appointed by the OWNER as his representative. The CONTRACTOR shall be notified in writing of the identity of this representative.

SHOP DRAWINGS: All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work and as required by the Contract Documents.

SAMPLES: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

SPECIFICATIONS: Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

SUBCONTRACTOR: An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION: The stage in construction when a project can be utilized for the purposes for which it was intended. At substantial completion, minor items and items that are seasonally restricted need not be completed, but the items that affect operational integrity and function of the facility must be capable of continuous use.

SUPPLEMENTARY GENERAL CONDITIONS: Federal Conditions in effect at time of submission of Bid.

SUPPLIER: Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

SPECIAL CONDITIONS: When included as a part of the Contract Documents, Special Conditions refer only to the Work under this Contract.

SURETY: The corporate body which is bound with the CONTRACTOR and which engages to be responsible for the CONTRACTOR and his acceptable performance of the Work.

WORK: Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by CONTRACTOR under the Contract Documents, including all labor, materials, equipment and other incidentals, and the furnishing thereof.

WRITTEN NOTICE: The term "Notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with Contract requirements. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or to an authorized representative of such individual, firm or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the

notice. Unless otherwise stated in writing, any notice to or demand upon the OWNER under this Contract shall be delivered to the OWNER through the ENGINEER.

ARTICLE 2 - PRELIMINARY MATTERS:

AWARD:

2.1 The award of the Contract, if it is awarded, will be to the lowest responsible, responsive Bidder. No Notice of Award will be given until the OWNER has concluded such investigations as he deems necessary to establish the responsibility, qualifications, and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the BID of any Bidder who does not pass such investigation to the OWNER'S satisfaction. In analyzing Bids, the OWNER may take into consideration alternates and unit prices, if requested by the Bid Form. If the Contract is awarded, the OWNER will issue the NOTICE of AWARD and give the successful Bidder a contract for execution within sixty (60) days after the opening of Bids.

EXECUTION OF AGREEMENT:

2.2 At least three counterparts of the Agreement and such other Contract Documents will be executed and delivered by CONTRACTOR to the OWNER within 10 working days or 15 calendar days of receipt from the OWNER.

FORFEITURE OF BID SECURITY:

2.3 Failure of the successful Bidder to execute and deliver the Agreement and deliver the required Bonds as stipulated in paragraph 2.2 shall be just cause for the OWNER to annul the Notice of Award and declare the Bid and any security therefore forfeited.

CONTRACTOR'S PRE-START REPRESENTATIONS:

2.4 CONTRACTOR represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the Contract Documents, Work, Locality, and local conditions and will obey all federal, state, and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that he has correlated his study and observations with the requirements of the Contract Documents. CONTRACTOR also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the Specifications and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

COMMENCEMENT OF CONTRACT TIME:

2.5 The Contract Time will commence to run no less than the 15 days after receipt by the CONTRACTOR of the Notice to Proceed.

STARTING THE PROJECT:

2.6 CONTRACTOR shall start to perform his obligations under the Contract Documents on the date when the Contract Time commences to run. No Work shall be done at the site prior to the date on which the Contract Time commences to run, except with the written consent of the OWNER.

BEFORE STARTING CONSTRUCTION:

2.7 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. He shall at once report in writing to ENGINEER any conflict, error or discrepancy which he may discover; however, he shall be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Drawings or Specifications.

SCHEDULE OF COMPLETION:

2.8 Within ten (10) days after delivery of the Notice to Proceed by OWNER to CONTRACTOR, CONTRACTOR shall submit to ENGINEER an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the Work, and a preliminary schedule of Shop Drawing submissions. See paragraphs 6.22 through 6.26. The ENGINEER shall review and return this schedule or require revisions thereto within 14 days of its submittal. If there is more than one CONTRACTOR involved in a project, the responsibility for coordinating the Work of all CONTRACTORS shall be as provided in the Special Conditions.

2.9 Within twenty (20) days after delivery of the executed agreement by OWNER to CONTRACTOR, but before starting the Work at the site, a preconstruction conference will be held to review the above schedules, to establish procedures for handling shop drawings and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the project. Present at the conference will be the OWNER or his representative, ENGINEER, Resident Project Representatives, CONTRACTOR and his Superintendent.

QUALIFICATION OF SUBCONTRACTORS MATERIALMEN AND SUPPLIERS:

2.10 Within ten (10) working days after bid opening, the CONTRACTOR will (if required) submit to the OWNER and the ENGINEER for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish principal items of material or equipment) proposed for those portions of the Work as to which the identity of the Subcontractors and other person and organizations must be submitted as specified in the Contract Documents. Within thirty (30) working days after receiving the list, the ENGINEER will notify the CONTRACTOR in writing if either the OWNER or the ENGINEER, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the OWNER or the ENGINEER to make objection to any Subcontractor, person or organization on the list within thirty days of receipt shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the OWNER or the ENGINEER to reject defective Work, material or equipment, or Work, material or equipment not in conformance with the requirements of the

Contract Documents.

**ARTICLE 3 - CORRELATION, INTERPRETATION AND
INTENT OF CONTRACT DOCUMENTS:**

3.1 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR. They may be altered only by a Modification.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall call it to the ENGINEER'S attention in writing at once and before proceeding with the Work affected thereby; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Specifications or Drawings. The various Contract Documents shall be given precedence, in case of conflict, error or discrepancy, as follows: Agreement Modifications, Addenda, Special Conditions, Instructions to Bidders, General Conditions, Technical Specifications and Drawings.

3.3 The words "furnish", "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service."

3.4 Miscellaneous items and accessories which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or usable structure or plant providing the indicated function, shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards including material, style, finish, strength, class, weight and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the ENGINEER before installation. The above requirement is not intended to include major components not covered by or inferable from the Drawings and Specifications.

3.5 The Work of all trades under this Contract shall be coordinated by the CONTRACTOR in such a manner as to obtain the best workmanship possible for the entire Project, and all components of Work shall be installed or erected in accordance with the best practices of the particular trade.

3.6 Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes or standard specifications or other data published by regulating agencies or accepted organizations, including but not limited to National Electrical Code, applicable State Building Code, Federal Specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of Bid.

3.7 Brand names where used in the Technical Specifications, are intended to denote the standard of quality required for the particular material or product. The use of a brand name item is to set a standard of quality and is not intended to restrict the Contractor from offering an equal item from other source(s) of supply. The term "equal" or "equivalent" when used in connection

with brand names, shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color and other applicable characteristics to the material or product specified by trade name, and that is for the same use and capable of performing the same function, in the opinion of the ENGINEER, as the material or product so specified. Proposed equivalent items must be approved by ENGINEER before they are purchased or incorporated in the Work.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE CONDITIONS; REFERENCE POINTS:

Availability of Lands

4.1 The OWNER will furnish, as indicated in Contract Documents the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise specified in the Contract Documents. Other access to such lands or rights-of-way for the CONTRACTOR'S convenience shall be the responsibility of the CONTRACTOR. The CONTRACTOR will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 The OWNER will, upon request, furnish to the BIDDERS copies of all available boundary surveys.

Subsurface Conditions:

4.3 The CONTRACTOR acknowledges that he has investigated prior to bidding and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the grounds, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The CONTRACTOR further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done on behalf of the OWNER on the site or any contiguous site, as well as from information presented by the Drawings and Specifications made a part of this Contract, or any other information made available to him prior to receipt of Bids. Any failure by the CONTRACTOR to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The OWNER assumes no responsibility for any conclusions or interpretations made by the CONTRACTOR on the basis of the information made available by the OWNER.

Differing Site Conditions

4.4 (a) The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual

nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above.

(c) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

ARTICLE 5 - BONDS AND INSURANCE:

Performance and Payment Bonds:

5.1 The contractor's attention is directed to the Information For Bidders.

Contractor's Liability Insurance:

5.2 The CONTRACTOR shall provide the OWNER with insurance certificates certifying that all required insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

5.3 The CONTRACTOR agrees that if any part of the Work under the contract is sublet, he will require the Subcontractor(s) to carry insurance as required, and that he will require the Subcontractor(s) to furnish to him insurance certificates similar to those required by the OWNER in 5.1 above.

5.4 The CONTRACTOR agrees to add ENGINEER to insurance policy as additional insured.

Owner's Liability Insurance

5.4 The OWNER will be responsible for purchasing and maintaining his own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the Contract Documents.

Fire and Extended Coverage Insurance (Builders' Risk):

5.5 The CONTRACTOR shall maintain, as applicable, in an Insurance Company or Insurance Companies acceptable to the OWNER, Fire, Extended Coverage and Vandalism & Malicious Mischief Insurance on buildings and structures, while in the course of construction, including foundations, additions, attachments and all permanent fixtures belonging to and constituting a part of said buildings or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the Contract. The amount of insurance must at all times be at least equal to the actual cash value of the insured property. The policy shall be in the name of the

OWNER and the CONTRACTOR, as their interests may appear, and shall also cover the interests of all Subcontractors performing work.

5.6 The CONTRACTOR shall provide the OWNER with satisfactory evidence certifying that the foregoing insurance is in force; and such evidence shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

Cancellation and Re-Insurance:

5.7 If any insurance should be canceled or changed by the insurance company or should any insurance expire during the period of this Contract, the CONTRACTOR shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this Contract.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES:

Supervision and Superintendence:

6.1 The CONTRACTOR will supervise and direct the Work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work. (Copies of written communications given to the Superintendent shall be mailed to the Contractor's home or office.)

Labor, Materials and Equipment:

6.2 The CONTRACTOR will provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order at the site.

6.3 The CONTRACTOR will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

6.4 All materials and equipment will be new, except as otherwise provided in the Contract Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

6.5 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

Materials, Equipment, Products and Substitutions:

6.6 Materials, equipment and products incorporated in the Work must be approved for use before being purchased by the CONTRACTOR. The CONTRACTOR shall submit to the ENGINEER a list of proposed materials, equipment or products, together with such samples as may be necessary for him to determine their acceptability and obtain his approval, within ninety (90) calendar days after award of Contract. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the ENGINEER.

6.6.1 Whenever a material, article or piece of equipment is identified on the drawings or Specifications by reference to brand names or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand names or catalog number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Incidental charges or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the Contract Price, or Contract Time.

6.6.2 No substitute shall be ordered or installed without the written approval of the ENGINEER who shall be the judge of equality.

6.6.3 Delay caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.

6.6.4 Should any work or materials, equipment or products not conform with requirements of the Drawings and Specifications or become damaged during the process of the Work, such Work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the Project. All such work shall be done at the expense of the CONTRACTOR. (See paragraph 7.10)

6.6.5 No materials or supplies for the Work shall be purchased by the CONTRACTOR or by any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the Seller. The CONTRACTOR warrants that he has good title to all materials and supplies used by him in the Work.

Concerning Subcontractors:

6.7 The CONTRACTOR will not employ any Subcontractor, other person or organization of the types referred to in paragraph 2.10 (whether initially or as a substitute) against whom the OWNER or the ENGINEER may have reasonable objection, nor will the CONTRACTOR be required to employ any Subcontractor against whom he has reasonable objection. The CONTRACTOR will not make any substitution for any Subcontractor who has been accepted by the OWNER and the ENGINEER, unless the ENGINEER determines that there is good cause for doing so.

6.8 The CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any Subcontractor or other person or organization having a direct contract with CONTRACTOR, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER or ENGINEER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done in accordance with the schedule of values.

6.9 The divisions and sections of the Specifications and the identifications of any drawings shall not control the CONTRACTOR in dividing the work among Subcontractors or delineating the Work to be performed by any specific trade.

6.10 The CONTRACTOR agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the OWNER.

6.11 All Work performed for the CONTRACTOR by a Subcontractor shall be pursuant to an appropriate agreement between the CONTRACTOR and the Subcontractor.

6.12 The CONTRACTOR shall be responsible for the coordination of the trades, Subcontractors and material men engaged upon his Work.

6.12.1 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the CONTRACTOR by the terms of these General Conditions and other Contract Documents insofar as applicable to the Work of Subcontractors, and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provisions of the Contract Documents.

6.12.2 The OWNER or ENGINEER will not undertake to settle any differences between the CONTRACTOR and his Subcontractors or between Subcontractors.

6.12.3 If in the opinion of the ENGINEER, any Subcontractor on the project proves to be incompetent or otherwise unsatisfactory, he shall be replaced if and when directed in writing.

Patent Fees and Royalties:

6.13 The CONTRACTOR will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

6.14 The CONTRACTOR shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles or systems prior to bidding. However, he shall not be responsible for such determination on systems which do not involve purchase by him of materials, appliances, and articles.

Permits:

6.15 The CONTRACTOR will secure and pay for all construction permits and licenses and will pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of his Bid. When such charges are normally made by the OWNER, there will be no charges to the CONTRACTOR. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR will also pay all public utility charges.

Laws and Regulations:

6.16 The CONTRACTOR will give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, he will give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he will bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and regulations.

Taxes:

6.17 Cost of all sales and other taxes for which the CONTRACTOR is liable under the Contract shall be included in the Contract Price stated by the CONTRACTOR.

Record Drawings:

6.18 The CONTRACTOR will keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Engineer and shall be delivered to him for the OWNER upon completion of the Project. It shall be used for this purpose only.

Safety and Protection:

6.19 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

6.19.1 All employees on the work and other persons who may be affected thereby.

6.19.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

6.19.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

6.20 The CONTRACTOR will designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the CONTRACTOR'S superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER.

Emergencies:

6.21 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He will give the ENGINEER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved. If the CONTRACTOR believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

Shop Drawing and Samples:

6.22 After checking and verifying all field measurements, the CONTRACTOR will submit to the ENGINEER for review, in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9) copies (or at the ENGINEER'S option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the CONTRACTOR. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the ENGINEER to review the information as required.

6.23 The CONTRACTOR will also submit to the ENGINEER for review, with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the CONTRACTOR, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

6.24 At the time of each submission, the CONTRACTOR will in writing call the ENGINEER'S attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.

6.25 The ENGINEER will review with reasonable promptness Shop Drawings and samples, but his review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The CONTRACTOR will make any corrections required by the ENGINEER and will return the required number of corrected copies of Shop Drawings and resubmit new samples until the review is satisfactory to the

ENGINEER. The CONTRACTOR shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the ENGINEER on previous submissions. The CONTRACTOR'S stamp of approval on any Shop Drawings or sample shall constitute a representative to the OWNER and the ENGINEER that the CONTRACTOR has either determined and verified all quantities, dimensions, field construction criteria, materials, catalogue numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawings or sample with the requirements of the Work and the Contract Documents.

6.26 No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been reviewed by the ENGINEER. A copy of each Shop Drawing and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6.27 The ENGINEER'S review of Shop Drawings or samples shall not relieve the CONTRACTOR from his responsibility for any deviations from the requirements of the Contract Documents unless the CONTRACTOR has in writing called the ENGINEER'S attention to such deviation at the time

of submission and the ENGINEER has given written approval to the specific deviation, nor shall any review by the ENGINEER relieve the CONTRACTOR from responsibility for errors or omission in the Shop Drawings.

Cleaning Up:

6.28 Site. The CONTRACTOR shall clean up behind the Work as much as is reasonably possible as the Work progresses. Upon completion of the Work, and before acceptance of and final payment for the Project by the owner, the CONTRACTOR shall remove all his surplus and discarded materials excavated material and rubbish from the roadways, sidewalks, parking areas, lawns and all adjacent property; shall clean his portion of Work involved in any building under this Contract, so that no further cleaning by the OWNER is necessary prior to his occupancy; shall restore all property, both public and private, which has been disturbed or damaged during the prosecution of the Work; and shall leave the whole in a neat and presentable condition.

6.29 Clean-up operations shall consistently be carried on by the CONTRACTOR at all times to keep the premises free from accumulation of waste materials and rubbish. Upon completion of the Work he shall remove all rubbish, tools, scaffolding, surplus materials, etc., and shall leave his work "broom clean", or its equivalent, unless more exactly specified elsewhere in the Contract. The General CONTRACTOR shall do the following special cleaning for all trades upon completion of the Work:

6.30 General. In case of dispute, the OWNER may remove the rubbish and charge the cost to the several contractors as the ENGINEER shall determine to be just.

Public Convenience and Safety:

6.31 The CONTRACTOR shall, at all times, conduct the Work in such a manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of the Work shall be provided for in a satisfactory manner, consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the Work, in a conspicuous position at such locations as traffic demands. At any time that streets are required to be closed, the CONTRACTOR shall notify law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

Sanitary Provisions:

6.32 The General CONTRACTOR shall furnish necessary toilet conveniences, secluded from public observation, for use of all personnel on the Work, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the Public Authorities having jurisdiction. He shall commit no public nuisance. Temporary sanitary facilities shall be removed upon completion of the Work and the premises shall be left clean.

Indemnification:

6.33 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses, and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss, or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

6.34 In any and all claims against the OWNER or the ENGINEER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.35 The obligations of the CONTRACTOR under paragraph 6.33 shall not extend to the liability of the Engineer's negligent acts, errors or omissions or those of his employees or agents.

Responsibility for Connecting to Existing Work:

6.36 It shall be the express responsibility of the CONTRACTOR to connect his Work to each part of the existing work or work previously installed as required by the Drawings and Specifications to provide a complete installation.

Work in Street, Highway and Other Rights-of-Way:

6.37 Excavation, grading, fill, storm drainage, paving and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines (either aerial, surface or subsurface), etc., shall be done in accordance with requirements of the special conditions. The OWNER will be responsible for obtaining all permits necessary for the work. Upon completion of the Work, CONTRACTOR shall present to ENGINEER certificates, in triplicate, from the proper authorities stating that the Work has been done in accordance with their requirements.

6.37.1 The OWNER will cooperate with the CONTRACTOR in obtaining action from any utilities or public authorities involved in the above requirements.

6.37.2 The ENGINEER shall be responsible for obtaining elevations of curbs and gutters, pavement, storm drainage structures, and other such items which must be established by governmental departments as soon as grading operations are begun on the site and, in any case, sufficiently early in the construction period to prevent any adverse effect on the Project.

Cooperation with Governmental Departments, Public Utilities, Etc:

6.38 The OWNER shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph

facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structure connected therewith, that are encountered in the work in order that such items may be properly shored, supported and protected, or the CONTRACTOR may relocate them if he so desires. The CONTRACTOR shall give all proper notices, shall comply with requirements of such parties in the performance of his Work, shall permit entrance of such parties on the Project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this work.

6.38.1 The CONTRACTOR'S attention is called to the fact that there may be delays on the Project due to work to be done by governmental departments, public utilities , and others in repairing or moving poles, conduits, etc. The CONTRACTOR shall cooperate with the above parties, in every way possible, so that the construction can be completed in the least possible time.

6.38.2 The CONTRACTOR shall have made himself familiar with all codes, laws, ordinances and regulations which in any manner affect those engaged or employed in the Work, or materials and equipment used in or upon the Work, or in any way affect the conduct of the Work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

Use of Premises:

6.39 CONTRACTOR shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, permits, and directions of ENGINEER and OWNER, and shall not unnecessarily encumber any part of site.

6.39.1 CONTRACTOR shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the Work to stresses or pressures that will endanger it.

6.39.2 CONTRACTOR shall enforce OWNER'S instructions in connection with signs, advertisements, fires and smoking.

6.39.3 CONTRACTOR shall arrange and cooperate with OWNER in routing and parking of automobiles of his employees, subcontractors and other personnel and in routing material delivery trucks and other vehicles to the Project Site.

Protection of Existing Property Improvements:

6.40 Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings or structures (including portions thereof), trees, and shrubbery not indicated on

the Drawings or noted in the Specifications as being removed or altered shall be protected from damage during construction of the Project. Any such improvements damaged during construction of the Project shall be restored to a condition equal to that existing at time of award of Contract.

Temporary Heat:

6.41 The General CONTRACTOR shall provide heat, fuel and services as necessary to protect all work and materials, within all habitable areas of permanent building construction, for all contracts against injury from dampness and cold until final acceptance of all work and materials for the Project, unless building is fully occupied by the OWNER prior to such acceptance, in which case the OWNER shall assume all expenses of heating from date of full occupancy. In areas outside those covered above, each prime contractor shall be responsible for providing such temporary heat, fuel and services as required to protect his work or shall make all necessary arrangements with the General CONTRACTOR for providing such temporary heat, fuel and services. Unless otherwise specifically permitted by Special Conditions, the permanent heating system shall not be used to provide temporary heat. CONTRACTOR'S proposed methods of heating shall be submitted for approval.

ARTICLE 7 - WORK BY OTHERS:

7.1 The OWNER may perform additional work related to the Project by himself, or he may let other direct contracts therefor which shall contain General Conditions similar to these. The CONTRACTOR will afford the other contractors who are parties to such direct contracts (or the OWNER, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

7.2 If any part of the CONTRACTOR'S work depends for proper execution or results upon the work of any such other CONTRACTOR (or the OWNER), the CONTRACTOR will promptly report to the ENGINEER in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

7.3 The CONTRACTOR will do all cutting, fitting, and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The CONTRACTOR will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and of the other contractors whose work will be affected.

7.4 If the performance of additional work by other contractors or the OWNER is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work. If the CONTRACTOR believes that the performance of such additional work by the OWNER or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provide in Articles 11 and 12.

7.5 Where practicable, the General CONTRACTOR shall build around the work of other separate contractors or shall leave chases, slots and holes as required to receive and to conceal

within the general construction work the work of such other separate contractors as directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the ENGINEER.

7.6 Necessary chases, slots and holes not built or left by the General CONTRACTOR shall be cut by the separate contractor requiring such alterations after approval of the General CONTRACTOR. The General CONTRACTOR shall do all patching and finishing of his Work where cut by other contractors at the expense of such other contractors.

7.7 Cooperation is required in the use of site facilities and in the detailed execution of the Work. Each CONTRACTOR shall coordinate his operations with those of the other contractors for the best interest of the Work in order to prevent delay in the execution thereof.

7.8 Each CONTRACTOR shall keep himself informed of the progress of the work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the CONTRACTOR shall notify the ENGINEER immediately. Lack of such notice to the ENGINEER will be construed as acceptance by the CONTRACTOR of the status of the work of other contractors as being satisfactory for proper coordination of his own work.

7.9 Each CONTRACTOR shall give notices of the progress of his work so as to allow other contractors adequate opportunity to properly direct and coordinate their work. The General Contractor shall give notices of the progress of his Work so that work of other contractors, when required to be concealed, may be placed before the general construction Work. All such notices shall be submitted to the ENGINEER with copies to other prime contractors on the Project sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 The cost of extra work resulting from lack of notices, untimely notices, failure to respond to notices, defective work or lack of coordination shall be borne by the CONTRACTOR responsible for such lack of notices, etc.

ARTICLE 8 - OWNER'S RESPONSIBILITIES:

8.1 The OWNER will issue all communications to the CONTRACTOR through the ENGINEER.

8.2 In case of termination of the employment of the ENGINEER, the OWNER will appoint an engineer against whom the CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration, if mutually agreeable.

8.3 The OWNER will furnish the data required of him under the Contract Documents promptly and shall make payments to the CONTRACTOR promptly after they are due as provided in Article 14.

8.4 OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1, 4.4 and the Special Conditions.

Paragraphs 4.2 and 4.3 refer to OWNER'S identifying and making available to CONTRACTOR copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications.

8.5 The OWNER'S responsibilities in respect of liability and property insurance are set forth in paragraph 5.4.

8.6 In addition to his rights to request changes in the Work in accordance with Article 10, the OWNER (especially in certain instances as provided in paragraph 10.4) will be obligated to execute Change Orders.

8.7 In connection with the OWNER'S right to stop Work or suspend Work, see paragraph 15.1. Paragraph 15.3 deals with the OWNER'S right to terminate services of the CONTRACTOR under certain circumstances.

8.8 The OWNER shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the fact that the time for completing the entire Work or any portion thereof may not have expired; but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the Work, the CONTRACTOR shall be entitled to such extra compensation or extension of time or both, except by prior agreement, as the ENGINEER may determine. See paragraph 14.11.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION:

Owner's Representative:

9.1 The ENGINEER shall be the OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER'S representative during construction are set forth in Articles 1 through 17 of these General Conditions and shall not be extended without written consent of the OWNER and the ENGINEER.

9.1.1 The ENGINEER'S decision, in matters relating to aesthetics shall be final, if within the terms of the Contract Documents.

9.1.2 Except as may be otherwise provided in this contract all claims, counter-claims, disputes and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this agreement or the breach thereof will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the State in which the OWNER is located.

Visits to Site:

9.2 The ENGINEER will make periodic visits to the site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. He will not be required to make continuous on-site observations to check the quality or quantity of the Work. His efforts will be directed toward ascertaining on behalf of the OWNER that the completed Project will conform to the requirements of the Contract Documents. On the basis of his on-site observations as an experienced and qualified design professional, he will keep the OWNER informed of the progress of the Work and will endeavor to guard the OWNER against defects and deficiencies in the Work of contractors.

Clarifications and Interpretations:

9.3 The ENGINEER will issue with reasonable promptness such written clarification or interpretations of the Contract Documents (in the form of Drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the Contractor believes that a written clarification and interpretation entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefor as provided in Articles 11 and 12.

Measurement of Quantities:

9.4 All Work completed under the Contract will be measured by the ENGINEER according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

Rejecting Defective Work:

9.5 The ENGINEER will have authority to disapprove or reject Work which is "defective" (which term is hereinafter used to describe Work that is unsatisfactory, faulty or defective, or does not meet the requirements of any inspection, test or approval or has been damaged prior to final acceptance). He will also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.6 In connection with the ENGINEER'S responsibility as to Shop Drawings and samples, see paragraphs 6.22 through 6.27, inclusive.

9.7 In connection with the ENGINEER'S responsibility for Change Orders, see Articles 10, 11, and 12.

9.8 In connection with the ENGINEER'S responsibilities in respect of Application for Payment, etc., see Article 14.

Resident Project Representative:

9.9 The OWNER or the ENGINEER will provide on-site representation sufficient to guarantee

that construction is in general compliance with the construction drawings and the contract specifications.

Decisions on Disagreements:

9.10 The ENGINEER will be the initial interpreter of the terms and conditions of the Contract Documents and the judge of the performance thereunder. In his capacity as interpreter and judge, he will exercise his best efforts to insure faithful performance by both the OWNER and the CONTRACTOR. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work or the interpretation of or performance under the Contract Documents shall be referred initially to the ENGINEER for decision; which he shall render in writing within a reasonable time.

9.11 Either the OWNER or the CONTRACTOR, if the other agrees, may file a claim in a court with local jurisdiction with respect to any such claim, dispute or other matter that has been referred to the ENGINEER, except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.11, However, no request for a claim of any such claim, dispute or other matter shall be made until the earlier of (a) the date on which the ENGINEER has rendered his decision or (b) the tenth day after the parties have presented their evidence to the ENGINEER if he has not rendered his written decision before that date. No request for a claim shall be made later than thirty (30) days after the date on which the ENGINEER rendered his written decision in respect of the claim, dispute or other matter as to which arbitration is sought; and the failure to request a claim within said thirty (30) days period shall result in the ENGINEER'S decision being final and binding upon the OWNER and the CONTRACTOR. If the ENGINEER renders a decision after judicial proceedings have been initiated, such decision may be entered as evidence but shall not supersede the judicial proceedings, except where the decision is acceptable to the parties concerned.

Limitations on Engineer's Responsibilities:

9.12 Neither the ENGINEER'S authority to act under this Article 9 nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any of their agents or employees or any other person performing any of the Work.

9.13 The ENGINEER will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the CONTRACTOR'S failure to perform the Work in accordance with the Contract Documents.

9.14 The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other person performing any of the Work.

ARTICLE 10 - CHANGES IN THE WORK:

10.1 Without invalidating the Agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, the CONTRACTOR will proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12. A Change Order signed by the CONTRACTOR indicates his agreement therewith.

10.2 The ENGINEER may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the CONTRACTOR believes that any minor change or alteration authorized by the ENGINEER entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefor as provided in Articles 11 and 12.

10.3 Additional Work performed by the CONTRACTOR without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.21 and except as provided in paragraph 10.2.

10.4 The OWNER will execute appropriate Change Orders prepared by the ENGINEER covering changes in the Work to be performed as provided in paragraph 4.4, and Work performed in an emergency as provided in paragraph 6.21 and any other claim of the CONTRACTOR for a change in the Contract Time or the Contract Price which is approved by the ENGINEER.

10.5 It is the CONTRACTOR'S responsibility to notify his surety of any changes affecting the general scope of the Work or change in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. The CONTRACTOR will furnish proof of such adjustment to the OWNER.

ARTICLE 11 - CHANGE OF CONTRACT PRICE:

11.1 The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without changing the Contract Price.

11.2 (a) The OWNER may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the Work within the general scope of the contract, including but not limited to changes:

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Owner-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation or determination) from the OWNER, which causes any such change, shall be treated as a change order under this clause, provided that the CONTRACTOR gives the OWNER written notice stating the date, circumstances, and source of the order and that the CONTRACTOR regards the order as a change order.

(c) Except as herein provided, no order, statement, or conduct of the OWNER shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment hereunder.

(d) If any change under this clause causes an increase or decrease in the CONTRACTOR'S cost of, or the time required for, the performance of any part of the work under this contract, weather or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: PROVIDED, HOWEVER, that except for claims based on defective specifications, no claim for any change under (b) above shall be allowed for any costs incurred more than 20 days before the CONTRACTOR gives written notice as therein required. And provided further, that in the case of defective specifications for which the OWNER is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the CONTRACTOR in attempting to comply with such defective specifications.

(e) If the CONTRACTOR intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the OWNER a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the OWNER. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents by application of unit prices to the quantities of the items involved. Should the Work (by quantity) be increased or decreased by 15 per cent from that stipulated in the Contract Documents, the OWNER and the CONTRACTOR may request adjustment of the unit prices by negotiation. If negotiation fails to reach agreement, then either party may request arbitration for the volume in excess of the 15 per cent differential.

11.3.2 By negotiated lump sum.

11.3.3 The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to salaries and wages plus the costs of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays shall be included in the above to the extent authorized by OWNER.

11.4.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturers field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to him and shall deliver such Bids to OWNER who will then determine with the advice of ENGINEER, which Bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of Work Plus a Fee, the cost of the Work shall be determined in accordance with paragraphs 11.4 and 11.5.

11.4.4 Costs of special consultants (including but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work.

11.4.5 Supplemental costs including the following:

11.4.5.1 The proportion of necessary transportation, travelling and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the

workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or other in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the cost of transportation, loading, unloading, installation, dismantling and removal thereof--all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall end when the use thereof is no longer necessary for the Work.

11.4.5.4 Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable imposed by any governmental authority.

11.4.5.5 Deposits lost for causes other than CONTRACTOR'S negligence, royalty payments and fees for permits and licenses. Costs for permits and licenses must be shown as a separate item.

11.4.5.6 Losses, damages and expenses, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the execution of, and to, the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of Work for the purpose of determining CONTRACTOR'S fee. If however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9 Cost of premiums for additional Bonds and Insurance required because of changes in the Work.

11.5 The term cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals, (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the schedule referred to in subparagraph 11.4.1 -- all of which are to be considered administrative costs covered by the CONTRACTOR'S Fee.

11.5.2 Expenses of CONTRACTOR'S principal and branch offices other than his office at the site.

11.5.3 Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S

capital employed for the Work and charges against CONTRACTOR'S for delinquent payments.

11.5.4 Cost of premiums for all bonds and for all insurance policies whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as otherwise provide in subparagraph 11.4.5.9.)

11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR'S Fee which shall be allowed to CONTRACTOR for his overhead and profit shall be determined as follows;

11.6.1 A mutually acceptable firm fixed price; or if none can be agreed upon,

11.6.2. A mutually acceptable fixed fee based on the estimate of the various portions of the Cost of the Work.

11.7 The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost, will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.8 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will submit in form prescribed by ENGINEER an itemized cost breakdown together with supporting data.

11.9 Allowances: It is understood that the CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such materialmen, suppliers, or Subcontractors and for such sums within the limit of the allowances as the ENGINEER may approve. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The CONTRACTOR agrees that the original Contract Price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

11.9.1 These allowances shall cover the cost to the CONTRACTOR less any applicable trade discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes.

11.9.2. The CONTRACTOR'S costs for unloading and handling on site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Price and not in the allowance.

11.9.3 Whenever the cost, as described in 11.9.1 above, is more than or less than the allowance, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses, except that whenever unit price allowances are stipulated for brick, the Change Order will not include any cost as described in 11.5 above.

ARTICLE 12 - CHANGE OF THE CONTRACT TIME:

12.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to OWNER and ENGINEER within ten days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

12.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if he makes a claim therefor as provided in paragraph 12.1. Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by OWNER, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3 All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of the Article 12 shall not exclude recovery for damages (including compensation for additional professional services) for delay by either parties.

12.4 No claim for delay shall be allowed because of failure to furnish Drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

12.5 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

ARTICLE 13 - GUARANTY:

13.1 The CONTRACTOR shall guarantee all materials and equipment furnished and Work performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to

other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs or adjustments, in the Work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

ARTICLE 14 - PAYMENTS AND COMPLETION:

Payments to Contractors:

14.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within sixty (60) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER may retain a portion of the amount otherwise due the CONTRACTOR. Except as State law otherwise provides, the amount the OWNER retains shall be limited to the following:

14.1.1 Withholding of not more than 10 per cent of the payment claimed until work is 50 per cent complete;

14.1.2 When Work is 50 per cent complete, reduction of the withholding to 5 per cent of the dollar value of all Work satisfactorily completed to date, provided that the CONTRACTOR is making satisfactory progress and there is no specific cause for greater withholding;

14.1.3 When the Work is substantially complete (operational or beneficial occupancy), the withheld amount shall be further reduced below 5 per cent to only that amount necessary to assure completion.

14.1.4 The OWNER may reinstate up to 10 per cent withholding if the OWNER determines, at its discretion, that the CONTRACTOR is not making satisfactory progress or there is other specific cause for such withholding.

Contractor's Warranty of Title:

14.2 The CONTRACTOR warrants and guarantees that title to all work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the OWNER prior to the making of the Application for payment, free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens") and that no work, materials or equipment covered by an Application for Payment will have been acquired by the CONTRACTOR or by any other person performing the Work at the Site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.

Approval of Payments:

14.3 The ENGINEER'S approval of any payment requested in an Application for Payment shall constitute a representation by him to the OWNER, based on the ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the Application of Payment and the supporting data, that the Work has progressed to the point indicated; That, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval), and that the CONTRACTOR is entitled to payment of the amount approved. However, by approving any such payment, the ENGINEER shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences, and procedures of construction or that he has made any examination to ascertain how or for what purpose the CONTRACTOR has used the moneys paid or to be paid to him on account of the Contract Price, or that title to any Work, materials, or equipment has passed to the OWNER free and clear of any Liens.

14.4 The CONTRACTOR shall make the following certification on each request for payment:

"I hereby certify that the labor and materials listed on this request for payment has been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location; and payment received from the last request for payment has been used to make payments to all first tier subcontractors and suppliers except as listed below."

14.5 The ENGINEER'S approval of final payment shall constitute an additional representation by him to the OWNER that the conditions precedent to the CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.11 have been fulfilled.

14.6 The ENGINEER may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the OWNER. He may also refuse to approve any such

payment, because of subsequently discovered evidence or the results of subsequent inspections or tests nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the OWNER from loss because:

14.6.1 The Work is defective, or completed Work has been damaged requiring correction or replacement,

14.6.2 The Work for which payment is request cannot be verified,

14.6.3 Claims or Liens have been filed or there is reasonable evidence indicating the probable filing thereof,

14.6.4 The Contract Price has been reduced because of Modifications,

14.6.5 The OWNER has been required to correct defective Work or complete the Work in accordance with paragraph 13.1,

14.6.6. Of unsatisfactory prosecution of the Work, including failure to clean up as required by paragraphs 6.29 and 6.30,

14.6.7. Of persistent failure to cooperate with other contractors on the Project and persistent failure to carry out the Work in accordance with the Contract Documents,

14.6.8. Of liquidated damages payable by the CONTRACTOR or,

14.6.9. Of any other violation of, or failure to comply with, the provisions of the Contract Documents.

14.7 Prior to Substantial Completion, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the Work. Such use shall not constitute and acceptance of such portions of the Work.

14.8 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the Work, or restoration of any damaged Work, except such as may be caused by agents or employees of the OWNER.

14.9 Upon completion and acceptance of the Work, the ENGINEER shall issue a certificate attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (60) days of completion and acceptance of the Work.

14.10 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations

of nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the Contract Documents by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

Acceptance of Final Payment as Release:

14.11 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this Work and for every act and neglect of the OWNER and others relating to or arising out of this Work. Any payment however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION:

Owner May Suspend Work:

15.1 The OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the CONTRACTOR and the ENGINEER which shall fix the date on which Work shall be resumed. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if he makes a claim therefor as provided in Articles 11 and 12.

Work During Inclement Weather:

15.2 No Work shall be done under these Specifications except by permission of the OWNER when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the CONTRACTOR, upon the direction of the OWNER, shall suspend all work until instructed to resume operations by the OWNER and the Contract Time shall be extended to cover the duration of the order. Work damaged during periods of suspension due to inclement weather shall be repaired and/or replaced by the CONTRACTOR. Any compensation for repairs or replacements shall be subject to approval of the OWNER.

Owner May Terminate:

15.3 If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property; or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or he disregards laws, ordinances, rules regulations or orders of any public body having jurisdiction, or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the Contract Documents, then the OWNER may without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety seven days written notice, terminate the services of the CONTRACTOR and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the Work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR or the Surety will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a Change Order.

15.4 Where the CONTRACTOR'S services have been so terminated by the OWNER, said terminations shall not affect any rights of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys by the OWNER due the CONTRACTOR will not release the CONTRACTOR from liability.

15.5 Upon seven days written notice to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the CONTRACTOR shall be paid for all Work executed and any expense sustained plus a reasonable profit.

Removal of Equipment:

15.6 In the case of termination of this Contract before completion, for any cause whatever, the CONTRACTOR if notified to do so by the OWNER, shall promptly remove any part or all of his equipment and supplies from the property of the OWNER. Should the CONTRACTOR not remove such equipment and supplies, the OWNER shall have the right to remove them at the expense of the CONTRACTOR. Equipment and supplies shall not be construed to include such items for which the CONTRACTOR has been paid in whole or in part.

Contractor May Stop Work or Terminate:

15.7 If, through no act or fault of the CONTRACTOR, the Work is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any Application for Payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR any sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of its approval and presentation, then the

CONTRACTOR may, upon seven (7) days written notice to the OWNER and the ENGINEER, terminate the Agreement and recover from the OWNER payment for all Work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the Agreement, if the ENGINEER has failed to act on an Application for Payment or the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon seven (7) days notice to the OWNER and the ENGINEER stop the Work until he has been paid all amounts then due.

Owner Furnished Equipment:

15.8 In case the OWNER furnishes equipment to the CONTRACTOR to install, but fails to deliver it to the CONTRACTOR as required and in case such failure causes the CONTRACTOR additional expense or need for extension of time, the CONTRACTOR may make such claims upon the OWNER and obtain adjustments as provided herein.

Liquidated Damages:

15.9 If the CONTRACTOR shall fail to complete the work within the contract time, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the Contract Documents for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract Documents.

ARTICLE 16 - DISPUTE SETTLEMENT:

16.1 All claims, disputes and other matters in question arising out of, or relating to, this Agreement or the breach thereof except for claims which have been waived by the making or acceptance of final payment as provided by paragraph 14.11, shall be decided in a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS:

17.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

17.2 If the OWNER fails to make payment thirty (60) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such progress payment, interest at 1% per month commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

17.3 All Specifications, Drawings and copies thereof furnished by the ENGINEER shall remain his property. They shall not be used on another Project, and, with the exception of those sets which have been signed in connection with the execution of the Agreement, shall be returned to him on request upon completion of the Project.

17.4 The duties and obligations imposed by these General Conditions, and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.36 and 14.3 and the rights and remedies available to OWNER and ENGINEER thereunder, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available by law, by special guarantee or by other provisions of the CONTRACT DOCUMENTS.

17.5 Should the OWNER or the CONTRACTOR suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employee or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

17.6 The CONTRACT DOCUMENTS shall be governed by the law of the place of the Project.

Progress Charts and Requirements for Overtime Work

17.7 The CONTRACTOR shall within 5 days or within such time as determined by the OWNER after date of commencement of work prepare and submit to the OWNER for approval a practicable schedule, showing the order in which the CONTRACTOR proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plans and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The CONTRACTOR shall enter on the chart the actual progress at such intervals as directed by the OWNER and shall immediately deliver to the OWNER three (3) copies thereof. If the CONTRACTOR fails to submit a progress schedule within the time herein prescribed, the owner may withhold approval of progress payment estimates until such time as the CONTRACTOR submits the required progress schedule.

If, in the opinion of the OWNER, the CONTRACTOR falls behind the progress schedule, the CONTRACTOR shall take such steps as may be necessary to improve his progress and the OWNER may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or update the progress schedule to reflect increased production for meeting the completion date, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the OWNER.

Failure of the CONTRACTOR to comply with the requirements of the OWNER under this provision shall be grounds for determination by the OWNER that the CONTRACTOR is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such

MEASUREMENT AND PAYMENT

Measurement and payment for the following bid items shall be as described and shall include all material equipment, labor and testing to install and make operational a complete sewer system as detailed on the contract drawings and in these specifications.

FORCE MAIN

Payment for force main will include all labor equipment and materials to install force main as denoted on the construction plans and/or in the specifications. The item shall include all pipe fittings, trenching, bedding, marking tape, tracer wire, back fill, compaction and other items necessary to produce a functioning force main. Item shall be paid per installed and accepted linear foot.

SEWER MAIN (SDR-26), HDPE, OR OTHER

Payment for all sewer mains will be per linear foot for various diameter pipe measured from centerline of manhole to centerline of manhole in relation to the diameter of the pipe and the depth of cut as shown in the individual bid items.

STEEL CASING

Payment for steel casing will be per linear foot measured from end to end of casing along the centerline of pipe. Diameter and thickness shall be as noted in the plans and specifications. Bored or Open cut casing pipe shall include labor, equipment and materials to install bore at depth as shown on plans.

AIR RELEASE VALVE

The item shall include an air release valve with concrete manhole enclosure as required by the plans and specifications. The item shall be paid per each.

CONCRETE ENCASEMENT FOR SEWER LINE

Payment for concrete encasement for sewer line shall include furnishing and installing concrete to encase a proposed sanitary sewer line. Item shall include forming, material, haul, placement, compaction and testing necessary to meet the plans and specifications. Payment shall be per linear foot measured along the length of the sewer pipe and end of concrete. The item shall be paid per linear foot.

REMOVAL OF SEWER PIPE THROUGH EXISTING BOX CULVERT

Payment for removal of sewer pipe through existing box culvert shall be as indicated on the construction plans. The item shall include all labor, materials and equipment necessary to complete the item including proper patching of voids in the box culvert. The item shall be paid per linear foot.

MANHOLES

Payment for manholes will be per each and depth of manhole in appropriate depth bracket measured from lid of manhole to downstream invert. Depth shall be based on individual bid items.

DROP MANHOLE CONNECTION

Payment for drop manhole connection shall include furnishing and installing all hardware required to assemble a drop as detailed in the plans and specifications. Payment shall be per each.

DEMOLITION AND REMOVAL OF EXISTING MANHOLES

Payment for demolition and mobilization of existing manholes shall be as indicated on the construction plans. The item shall include the total removal of the manhole assembly and removal and disposal off site. The item shall include all disposal and transportation costs. The item shall be paid per each.

LIFT STATION

Item shall include all necessary labor, materials and equipment necessary to provide a functioning lift station based on the plans and specifications. The item shall include but not limited to clearing and grubbing, borrow material, crushed aggregate, concrete wet well, pumps, electrical, disconnect, valve pit, gages, service pole, meter box, lifting chain, guide rail, chain link fence with gates and other misc. equipment as required by the plans. The item shall be lump sum and paid as a percentage complete based on the engineer's determination at the time of the estimate.

SEWER SERVICE TEE

Payment for sewer service tee will be per each at the bid size. Price shall include all labor, materials and equipment necessary to install sewer service tee based on plans and specifications.

SANITARY SEWER SERVICE TAP

Payment for sanitary sewer service tap will be per each at the bid size. Price shall include all labor, materials and equipment necessary to install sanitary sewer service tap based on plans and specifications.

PVC SEWER SERVICE LINE

Payment for sewer service will be per linear foot for various diameter pipe measured from end of sewer tee to the fitting on the cleanout to the nearest whole foot. Item shall include all labor, equipment and materials necessary to install all equipment.

SEWER CLEANOUT

Payment for sewer cleanout will be per each to include all labor, materials and equipment at the bid size. Price shall reflect depth as necessary to provide sanitary sewer service to project area.

REMOVAL OF EXISTING SEPTIC TANK

Payment for abandonment septic tank shall be as indicated on the construction plans. The item shall include the removal of the septic tank lid and proper disposal of all components from the removal process. Necessary backfill required for the void shall be included in the item. Item shall include any necessary reconnection fittings or pipe to make the facility a fully functioning sanitary sewer service. The item shall include all labor, equipment and materials necessary for removal of existing septic tank. Bypass pumping shall be an absorbed portion of this item should it be necessary for the installation. The item shall be paid per each.

WATER SERVICE REPAIR

Payment for water service repair shall include all fittings, tubing, curb stop, corporation stop, tapping saddle and misc materials, labor and equipment to repair existing water services in conflict with construction or as directed by the engineer. Item shall be paid per each.

CRUSHED AGGREGATE

Payment for crushed aggregate shall include furnishing and installing material as specified in the plans and specifications. Crushed aggregate shall be installed as a base material for the pavement repairs. Crushed aggregate may be used for a temporary riding surface. Temporary riding surface will be removed prior to pavement repairs and moved to another location as directed by the engineer at no additional cost to the project. Payment shall be per ton from certified scales.

SELECT FILL MATERIAL

Payment for select fill material will be based on loose vehicular measurement. Haul vehicles shall be measured and volumes calculated. It shall be the discretion of owner as to the overall percentage full of haul material. Item shall include material, haul, placement and testing necessary to meet the plans and specifications.

CONCRETE SIDEWALK REPAIR

Payment for concrete sidewalk repair shall include furnishing and installing sidewalk to match removed concrete sidewalk. Item shall include forming, material, haul, placement, compaction and testing necessary to meet the plans and specifications. Item shall not be used for damage to sidewalk as a result of poor construction methods or neglect from the contractor. Payment shall be per square yard measured at the back of the curb.

CONCRETE PAVEMENT REPAIR

Payment for concrete pavement repair shall include furnishing and installing concrete pavement as specified in the plans and specifications. Item shall include forming, material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per square yard.

ASPHALT PAVEMENT REPAIR

Payment for Hot Mix Asphalt shall include furnishing and installing asphalt pavement as specified in the plans and specifications. Item shall include material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per square yard.

GROUTED RIPRAP

Payment for grouted rip rap shall include furnishing and installing filter fabric, grading, rock, grout, etc. as required by the plans and specifications. Item shall include all materials, labor and equipment. Payment shall be made by square yard based on the amount of material in place. Square yardage shall not include toe walls which will be included in the total project amount.

REMOVE AND RESET RIPRAP

Payment for removal and reset of grouted rip rap shall include furnishing and installing filter fabric, grading, additional rip rap, grout, etc. as required by the plans and specifications. Item shall include all materials, labor and equipment. Payment shall be made by square yard based on the amount of material in place. Square yardage shall not include toe walls which will be included in the total project amount.

REMOVAL OF EXISTING STEEL CASING

Payment for removal of existing steel casing shall be as indicated on the construction plans. The item shall include all labor, materials and equipment necessary to complete the removal item including proper disposal of steel casing. The item shall be paid per linear foot.

REMOVE AND REPLACE FENCE

Payment for removal of fence shall be per linear foot as measured along the existing fence prior to removal. Item shall include but not be limited to all labor, equipment, supplies and materials necessary to completely remove various types of existing fence, posts and concrete base if present, gates, wire and other hardware, and replace with a similar fence with similar components to match existing components as specified in the plans and specifications.

CONCRETE

Payment for concrete shall include furnishing and installing concrete with specified class as specified in the plans and specifications. Item shall include forming, material, haul, placement compaction and testing necessary to meet the plans and specifications. Item shall include reinforcing steel, grates, etc. as necessary and required. Payment shall be per cubic yard.

REMOVAL OF STORM SEWER PIPE

Payment for removal of storm sewer pipe shall be as indicated on the construction plans. The item shall include the total removal of cross drain and side drain pipe and removal and disposal off site. The item shall include all disposal and transportation costs. The item shall be paid per linear foot.

REINFORCED CONCRETE PIPE (R.C.P)

Payment for all drainage pipe will be per linear foot for various diameter pipe measured from end of pipe to end of pipe installed in relation to the diameter of the pipe.

CORRUGATED PLASTIC PIPE

Payment for corrugated plastic pipe shall be per linear foot as measured along the constructed pipe. Item shall include but not be limited to all labor, equipment, supplies and materials necessary to furnish, construct and install pipe, fittings, bedding, as specified in the plans and specifications.

CLEARING AND GRUBBING

Payment for clearing and grubbing shall include removal of all items within the required limits of construction necessary to complete the project based on the construction plans and specifications. Payment shall include off site removal of all items removed during clearing and grubbing. Item shall include all materials, labor and equipment necessary to meet the plans and specifications. Payment

shall be lump sum.

GRASSING

Payment for grassing work shall include furnishing and installing seeding, fertilizer, lime and other components required to establish permanent grassing. Grassing shall include final grading prior to installation of seeding materials. The unit measurement shall be lump sum and based on the percentage of area completed in full to date at time of estimate.

EROSION CONTROL

Payment for Erosion Control shall include furnishing, installing and maintaining wattles, silt fence or other measures as required by current Mississippi Department of Environmental Quality standards. Wattles and silt fence shall be installed and maintained to prevent erosion under or excess siltation within 24 hours of a rain event. The unit measurement shall be Lump Sum and shall include any required maintenance.

MOBILIZATION

Payment for mobilization shall enable contractor to assemble materials, equipment, etc. on site, to prepare for construction. The unit measurement shall be lump sum. Mobilization shall be paid 50 percent at 5 percent of construction complete and 100 percent at 25 percent of construction complete.

MAINTENANCE OF TRAFFIC

Payment for maintenance of traffic will be lump sum. Item shall include all materials, labor and equipment to maintain traffic based on the current MUTCD or as required by the engineer.

TECHNICAL SPECIFICATIONS

SANITARY SEWERAGE SYSTEMS

1.0 GENERAL

This item shall consist of furnishing all of the necessary materials, supervision, labor, tools, equipment and incidentals, and the installation of various types and sizes of sewer pipe and related items in accordance with the Contract Drawings and Specifications, as stated in the Proposal.

2.0 APPLICABLE PUBLICATIONS

The following publications form a part of this Specifications and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- A 139/139M Electric-Fusion (Arc) Welded Steel Pipe (HPS 4 inch and over).
- A 252 Welded and Seamless Steel Pipe Piles.
- C 31/C 31M Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field.
- C 33 Specifications for Concrete Aggregate
- C 39/C 39M Compressive Strength of Cylindrical Concrete Specimens.
- D 1248 Polyethylene Plastics Extrusion Materials for Wire and Cable
- D 1784 Rigid Poly(Vinyl Chloride)(PVC) Compounds and Chlorinated Poly (Vinyl Chloride)(CPVC) Compounds.
- D 2412 Determination of External Loading Characteristics of Plastic Pipe by Parallel Plate Loading.
- D 2922 Density of Soil and Soil Aggregate in place by Nuclear Methods (Shallow Depths).
- D 3034 Specifications for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
- D 3212 Joints for Drain and Sewer Plastic Pipes using Flexible Elastomeric Seals.
- F 477 Specifications for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

F 794 Poly (Vinyl Chloride)(PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

A21.10 Ductile Iron Fittings, 3 inch through 48 inch for Water and other Liquids.

A21.11 Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.

A21.50 Ductile Iron Pipe, Design Requirements

A21.51 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-lined Molds, for Water or other Liquids.

AMERICAN WATER WORKS ASSOCIATION (AWWA)

C 104 Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water and Other Liquids.

C 106 Cast Iron Pipe Centrifugally Cast in Metal Molds, for water and other Liquids.

C 110 Ductile Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids.

C 111 Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.

C 151 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or other Liquids.

AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO)

T-88 Particle Size Analysis of Soils.

T-89 Determining the Liquid Limit of Soils.

T-90 Determining the Plastic Limit and Plasticity Index of Soils.

T-99 Moisture Density Relations of Soils Using a 5.5 lb. Rammer and 12 inch Drop.

T-191 Density of Soil In-Place by the Sand-Cone Method.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Standard Specifications for Road and Bridge Construction Current Edition.

3.0 SUBMITTALS

The following submittals shall be required for the respective materials used in the work. All submittals shall be submitted through the Contractor to the Engineer.

3.1 Ductile Iron Pipe: The following submittals shall be required for ductile iron pipe systems utilized on the project. The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements as specified hereinafter under Article 4.0, Materials. In addition, the submittals shall include the following:

A. Joints: The following shall be required for ductile iron joints.

1. Drawings or Manufacturer's Catalogue data indicating dimensions and tolerance.
2. Gaskets shall be tested in accordance with the respective standards as indicated in ANSI 21.11 and results shall be included in the submittals. Test shall be for similar materials on the gaskets and be not more than one year old.
3. Mechanical Joints: Should the Contractor elect to use mechanical joints in lieu of push-on joints, manufacturer's data shall be submitted in accordance with the "Special Requirements for the Mechanical Joint" as stated in ANSI 21.11 (AWWA C 111).

B. Ductile Iron Pipe Submittal Shall Include the Results of:

1. Tension Test
2. Impact Test
3. Low Temperature Impact Test

Sampling procedure shall be as indicated in ANSI 21.51.

3.2 PVC Pipe: The Contractor shall submit manufacturer's certificate certifying that the pipe and fittings conform to the requirements as specified hereinafter under Article 4.0, Materials. In addition, the Contractor shall submit the following:

A. PVC Piping: PVC Pipe shall be sampled, tested, and inspected in accordance with the provisions of ASTM D3034. Copies of test results shall be attached. Test results shall be similar material and not be more than one year old from the date of material delivery.

B. Joints: The following submittals shall be required for PVC joints.

1. Certificate with test results for joints for compliance to ASTM D 3212. Gaskets shall conform to ASTM F 477. Test results shall be for similar material and not be more than one year old.

4.0 MATERIALS

4.1 Gravity Sewer Pipe: Where the type of gravity sewer piping is not indicated on the

plans, the Contractor shall furnish polyvinyl chloride (PVC) pipe.

The Contractor shall be restricted to furnishing the exact type of pipe material where indicated on the Contract Drawings.

The Contractor shall be limited to the use of only one type of pipe (so selected by the Contractor and indicated on the Proposal Form) and shall not change the type of gravity sewer pipe except as follows:

1. Where indicated on the plans, or
2. If permitted in writing by the Engineer.

A. Ductile Iron Pipe: Ductile iron shall be designed in accordance with the latest revision of ANSI/AWWA C150/A21.50 for a minimum 50psi.

Ductile Iron Pipe shall be manufactured in accordance with the latest revision of ANSI/AWWA C151/A21.51. Each pipe shall be subjected to a hydrostatic pressure test of at least 500 psi at the point of manufacture.

Pipe shall be standard asphaltic coating on the exterior. Pipe shall also have a Protecto 401 lining on the interior.

The class or nominal thickness, net weight without lining, and casting period shall be clearly marked on each length of pipe. Additionally, the manufacturer's mark, country where cast, year in which the pipe was produced, and the letters "DI" or "Ductile" shall be cast or stamped on the pipe.

All pipe shall be furnished with Push-On Type Joints, such as Tyton or Fastite. Joints shall be in accordance with ANSI/AWWA C111/A21.11, of latest revision, and be furnished complete with all necessary accessories.

Fittings shall be ductile iron. Fittings shall conform to the latest revision of either ANSI/AWWA C600.

B. PVC Pipe: PVC gravity sewer pipe and fittings shall conform to the requirements of ASTM D 3034 with an SDR of 26 and a minimum stiffness of 46 lb./in. - in and 115 lb./in. - in, respectively. Joints for sewer pipe shall be either push-up or mechanical conforming to the requirements of ASTM 3212. Gaskets for sewer pipe shall conform to the requirements of ASTM F 477.

Approved adaptors shall be used for making connections between PVC pipe and concrete manholes.

C. Service Laterals: Service laterals for local services shall consist of fittings, pipe lengths, and connections of 6 inch or 4 inch pipe. The fittings, pipe lengths and plugs shall be of

the same material as the run pipe unless otherwise indicated on the Contract Drawings. The modified sewer tees shall be an integral part of the run pipe. The remainder of the branch shall consist of standard fittings (elbows, reducers, and lengths of pipe) in accordance with the manufacturer's standard products and as specified. Pipe lengths and joint connections shall meet the specified requirements for the type materials used.

All service lines shall extend a maximum of up to 5 feet from house fronts of residences and public buildings and up to the property lines of businesses.

4.2 Casing Pipe: Steel pipe utilized as casing at locations shown on the Contract Drawings shall be new round piling pipe conforming to the requirements of ASTM A 252 or A 139. Casing diameter shall be adequate to allow pushing of the specified diameter of sewer pipe or force main and make proper connections at the ends. Minimum Wall Thickness for steel casing is 0.25 inch. (Hwy) and 0.28 inch (RR).

4.3 Wash Gravel Bedding Material: Select Granular material for pipe bedding shall be coarse concrete aggregate. The coarse concrete aggregate shall conform to the gradation sizing Number 467 specified in Table 2 of ASTM Standard Specification C-33. (See Following Table:)

SIZE NO. 467

<u>Nominal Size</u> <u>(Sieves w/Square Openings)</u>	<u>Percent Passing by Weight</u>
2"	100
1 - ½"	95 - 100
¾"	35 - 70
⅜"	10 - 30
No. 4	0 - 5

4.4 Stabilization Material: Stabilization Material shall be a pit run mixture of sand and gravel. The sand shall be hard, sharp and durable particles. All gravel shall pass a 1 - ½" sieve.

4.5 Clay Gravel Material: Clay Gravel Material shall meet MDOT Standards Class 6, Group C.

4.6 Concrete: Concrete shall be in accordance with the requirements of Technical Specifications - CONCRETE

4.7 Select Backfill: General : The select material shall be composed of a natural or artificial mixture of sand, silt, clay or soil binder or other material of satisfactory cementing value. The sand shall be hard, sharp, and durable particles, preferably siliceous. The binder shall be a grade

of clay or other material having satisfactory cementing qualities and shall be homogenous in character, free from vegetable matter, clay balls or other deleterious substances that cannot be classed as serviceable base material.

A. Gradation: Any coarse aggregate contained in the material shall pass the one and one-half (1-1/2), sieve and not more than thirty-five percent (35%) shall be retained in the Number 10 sieve. The plasticity index (P.I.) shall not exceed 12, nor shall the liquid limit exceed 30.

The composite selected sand-clay material passing the Number 10 sieve shall conform to the following minimum and maximum gradation limits:

<u>Sieve</u>	<u>Percent Passing by Weight</u>
Number 40	40 - 85
Number 60	30 - 70
Number 270	8 - 30
Silt (.05 to .005 mm)	3 - 15
Clay (Passing .005 mm)	3 - 15

4.8 Backfill: All other backfill shall consist of excavated material removed from the trench unless otherwise directed by the Engineer. CONTRACTOR shall separate poor and acceptable material during excavation. Failure to separate material shall require CONTRACTOR to furnish acceptable backfill at no additional cost to the project.

5.0 CONSTRUCTION:

5.1 Earthwork:

A. Site Preparation: Topsoil shall be stripped and stockpiled in accordance with Technical Specifications - Restoration of Roads, Driveways, Fences, Lawns, and other Grassed Areas.

All vegetation such as brush, heavy sod, heavy growth of grass, decayed vegetative matter, rubbish and any other unsuitable material within the area of trenching shall be stripped or otherwise removed before the trenching is started, and in no case shall such objectionable material be allowed in the trench.

Stripping operation shall be to a depth of not less than 6 inches in all cases.

B. Asphalt or Concrete Removal: Before trenching operations begin, the existing asphalt or concrete pavement shall be scored or cut to a proper depth to give a straight vertical edge when removed. The asphalt or concrete shall be disposed of offsite by the Contractor. While removing the asphalt or concrete in the trench line, never shall the adjacent asphalt be raised or pulled from its base.

C. Trenching: The Contractor shall determine all requirements for trench dimensions,

alignment, and grades. The trench shall be excavated in conformance with all federal, state and local regulations for the protection of the workmen. Shoring, sheeting and/or a moveable form shall be used as required to provide earth stability during the laying operations.

The final excavation of the trench for the pipe installation shall be as indicated on the Plans. Minor variations in horizontal (within the permanent easement) or vertical alignment during construction shall be made during construction (with the Engineer's approval) to facilitate ease of installation and operation (due to potential conflicts; i.e., utility conflict) at no additional cost to the Owner except for additional piping, if any. The trench from the top of the pipe down to the bottom of the bedding shall be of a consistent width as indicated on the plans. Should the excavated width of the trench be larger than the design width, the Engineer may direct that a higher type or class of bedding be used; or other adjustments be made to increase the load carrying capacity of the pipe.

The Contractor shall not excavate more trench in advance of pipe laying than is necessary to perform the work efficiently. No more than 100 feet of open trench shall be allowed unless approved by the Engineer.

Excavated material shall be placed in a manner that will not obstruct sidewalks, driveways, or other structures. Excavated material shall not be placed so as to surcharge the walls and jeopardize trench stability.

If adequate area is not available on the construction site, the CONTRACTOR will be required to stockpile material off site. Owner shall not bear any additional expense.

Ledge Rock, boulders and large stones shall be removed to provide a minimum clearance of 4 inches (10 cm) below and on each side of all pipes.

D. Disposal: The Contractor shall satisfactorily dispose of all excess earth from excavations either in approved (by the Engineer) areas within the construction limits or away from the project in disposal sites obtained by the Contractor.

The Contractor will be permitted to mound excess earth over the trench to a maximum depth of 12 inches above the original ground surface or finished grade where the trench is located in unimproved property. Wasting of excess excavated material will not be permitted within any road ROW. All material within the construction limits shall be placed so that natural drainage is maintained and the surface shall be graded to a smooth and uniform appearance. The disposal of waste and excess excavating materials, including hauling, handling, grading, and surfacing shall be subsidiary obligation of the contractor and no separate payment will be made. Therefore, the cost of such work shall be included in the Contract Unit Price for installation of sewer pipe.

E. Dewatering: The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches and dikes and shall perform all pumping and other work necessary to divert or remove rainfall and other accumulations of surface water from the excavations. The

diversion and removal of surface water shall be performed in a manner that will prevent the accumulation of water behind temporary structures or at any other locations within the construction area where it may be detrimental. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hoses, piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least one foot below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of one foot below the lowest excavation subgrade made until the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures.

Where groundwater is encountered, the Contractor shall make the effort necessary to secure a dry trench bottom before laying pipe. In sandy and in other suitable type soils, dewatering shall be done by well pointing. If, in the opinion of the Engineer, the Contractor has failed to obtain an absolutely dry trench bottom by insufficient use of all known methods of trench dewatering, the Engineer may order the Contractor to excavate below grade and place not less than 6 inches of graded crushed stone fill material over the trench bottom to form trench drains to suitably located sumps and to remove the water by bailing or pumping. The graded crushed stone fill material shall be placed at the Contractor's own expense and shall be of such depth that there shall be not water in bell holes at the time of coupling pipe. All costs of equipment, labor, and materials required for dewatering shall be included in the pipe laying operation.

F. Bedding: The Contractor shall satisfactorily shape the trench area (to specified line, grade and cross section) to receive bedding material. The bottom of the trench shall be undisturbed soil. Should the Contractor over excavate the trench without direction from the Engineer, the trench shall be brought up to grade with select backfill and compacted to at least 90% of maximum laboratory density as measured by AASHTO T 99. Such additional work and materials for over excavation without direction of the Engineer shall be at the expense of the Contractor.

Holes for the bells shall be provided at each joint in the subgrade or in the granular fill bedding material as required. The holes shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the material. The Contractor shall install the proper bedding for the respective type of pipe and depth of installation as shown in the details and schedules on the plans. When depths vary in a particular manhole run, the Contractor shall change bedding systems in accordance with the depth installation requirements.

1. Stabilization Materials: When the subgrade is found to be unstable or to include ashes, refuse, organic material, or other unsuitable material, the Engineer may direct that the subgrade be over excavated to remove such material. The depths of over excavation shall be as directed by the Engineer. Stabilization material shall be placed into the over excavated area of the trench and shall be paid for in accordance with these specifications. Stabilization shall be compacted to at least 90% of maximum laboratory density in six inch lifts.

2. Bedding Materials: As detailed in the plans, bedding material shall be placed to the

specified depth below the pipe and tamped to a minimum of 90% of maximum laboratory density as determined in accordance with AASHTO T 99. Following placement of pipe, additional bedding material shall be placed and consolidated under the haunches of the pipe. Special tools shall be required to work the material into place and leave no voids beneath the pipe. The bedding material shall be tamped along the spring line (or along the top of the bedding material as indicated) of the pipe to sufficiently compact the material insofar as practical.

The Engineer may direct additional moisture be added to the bedding material to aid in the compaction effort. Mechanical tampers may be employed to aid the process. Depending on the particular bedding required, additional bedding shall be added and tamped to a minimum of 90% of maximum laboratory density, with AASHTO T-99.

3. Select Backfill: Select backfill shall be placed in 6 inch lifts and tamped to a minimum laboratory density with AASHTO T-99. Overall depth of the select backfill shall be as directed by the Engineer.

4. Normal Condition Bedding: Under normal conditions the trench bottom shall be undisturbed earth shaped to the specified line, grad, and cross section with proper bell holes at each joint to insure that pipe barrel lies flat on trench bottom. The bedding material will be selected native materials excavated from the trench and placed in two lifts. The first lift being placed up to the spring line of the pipe and extending out to the trench walls and hand tamped to a minimum of 90% of maximum laboratory density. Special care shall be used in placing and tamping bedding to insure no voids under the haunches of the pipe. The second lift shall extend to approximately 6" above pipe (Material permitting) and hand tamped to 90% density.

5. Backfilling: Upon completion of placement of select material the excavated materials shall be immediately placed back into the trench. Specific requirements are:

- a. Backfill requirements for road crossings, parking lots, driveways, and sidewalks shall be in accordance with Technical Specifications - RESTORATION OF ROADS, DRIVEWAYS, FENCES, LAWNS, AND OTHER GRASSED AREAS.
- b. Backfill requirements for unimproved areas (pastures, wooded areas) shall consist of placement and shaping of the soil in such a manner as to allow maximum natural consolidation. No compaction of the general backfill in the unimproved areas will be required, except that caused by conventional shaping equipment.
- c. No debris shall be used as backfill which has a volume in excess of one-half of one cubic foot or a weight excess of 75 pounds.

6. Sheeting Removal: Wooden sheeting or other thick sheeting or shoring members which have been driven or otherwise placed along the trench walls to an elevation below the spring line of the pipe shall be cut off at the spring line or higher and left in place.

7. Grading and Grassing: Final grading and grassing shall be in accordance with

Technical Specifications - RESTORATION OF ROADS, DRIVEWAYS, FENCES, LAWNS,
AND OTHER GRASSED AREAS.

5.2 PIPE HANDLING AND STORAGE: Pipe shall be handled, staked, and stored in accordance with manufacturer's printed literature. The Contractor shall provide security as required to prevent damage by vandals. PVC pipe shall be shaded from sunlight for extended lengths of time. Pipe damaged during storage and handling shall be rejected.

5.3 PIPE LAYING: Pipe laying shall proceed upgrade with the spigot ends of the bell-and-spigot pipe and tongue ends of the tongue and groove pipe jointing in the direction of flow. Each pipe shall be laid true to line and grade and in such a manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the sewer shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. Trenches shall be kept free of water and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At times when work is not in progress, open ends of pipe and fittings shall be securely and satisfactorily closed so that no trench water, earth, or other substance will enter the pipe or fittings.

Pipe laying shall be performed in such a manner that no foreign material enters the pipe. The Engineer may require that before lowering pipe, heavy canvas bags be placed over each end, and left in place until joints are ready to be made. If water is in the trench, the seals shall remain in place until the trench is pumped completely dry. If conditions are unsuitable, no pipe shall be laid until satisfactory laying conditions are obtained in accordance with the above specified requirements.

The Contractor shall utilize a commercial grade laser beam specifically manufactured to aid in maintaining grade and alignment of pipelines during installation. The primary unit shall be mounted on a heavy duty base and firmly anchored in the downstream manhole of the reach under construction. The maximum distance shall not exceed four hundred feet (400') per set-up.

Each joint of pipe shall be installed using an approved target to align the pipe with the projected laser beam. The methods and procedures shall be in strict accord with the manufacturer's recommendations and instructions. Proper ventilation shall be maintained at all times. Care shall be exercised in order to prevent bumping or misalignment of the projected beam. Sewer lines shall be laid such that the installed variation of invert elevations when compared with the construction plans does not exceed 0.05 feet. Sewer lines in which said variation exceeds 0.05 feet may be rejected. Sewer pipe shall be visually inspected for alignment by lamping, televising or by other appropriate means to determine alignment.

Whenever a movable steel box is used in place of sheeting, the Contractor shall take care to prevent the pipe from moving when the steel box is moved.

5.4 PIPE JOINTING: Piping shall be jointed in accordance with the manufacturer's printed recommendations. Gaskets shall be firmly set within the bells and grooves as required. The manufacturer's recommended lubricant or an approved equal shall be applied for slip type joints.

A. PVC Pipe Joint Construction: The bell and spigot ends of PVC sewer pipe shall be cleaned of all foreign material that could interfere with proper assembly of the joints. The spigot ends shall be cleaned one inch (1") beyond the joint assembly reference mark.

The spigot end of the pipe shall be thoroughly lubricated in accordance with the manufacturer's recommendations. The coating should be the equivalent of a brush coat of enamel paint and maybe applied by hand, cloth, pad sponge or glove.

The lubricated spigot end shall be inserted into the bell keeping the pipe length in proper alignment. The bell shall be braced while the spigot end is pushed in under the rubber ring, so that previously competed joints in the line will not be closed up. The spigot end shall be pushed into the bell until the reference mark is flush with the end of the bell.

Generally, the installation and jointing of PVC Pipe shall conform to the requirement so the latest edition of ASTM D-2321, "Underground Installation of Flexible Thermoplastic Sewer Pipe".

B. Ductile Iron Pipe Joint Construction: The installation and jointing of ductile iron pipe and shall generally conform to the applicable provisions of AWWA Standard Specifications C-600 for pipe laying.

Where mechanical joint pipe is used, the surfaces which come in contact with the gasket shall be thoroughly brushed with a wire brush just prior to assembly. The gasket should be brushed with soapy water prior to installation to remove loose dirt and to lubricate gasket as it is forced into its retaining space.

When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly. The bolts should be partially tightened; the bottom bolt first, then the top; next the bolts on either side; and last, the remaining bolts. Overstressing of bolts to compensate for poor installation will not be permitted. Bolt torque shall be in accordance with manufacturer's specifications.

All joints of whatever type shall be completely water tight after being subjected to the required tests.

C. Jointing Dissimilar Pipes: Suitable adaptor couplings are required for connecting dissimilar pipes. The couplings shall be approved by the Engineer before installation.

5.5 STREAM CROSSING: Ductile iron pipe Class 50 shall be used as shown on the Drawings. Granular fill, concrete, and concrete collars shall be placed or constructed as shown on

the contract drawings.

5.6 SERVICE LATERALS (LINES): Modified sewer tees shall be installed on the run pipe at the appropriate field locations. Service lines of the sizes specified shall be laid to a uniform grade so that the customer being served can be tied-in using good construction practices. All tamping and backfilling operations shall be performed the same as on main line pipe. Removable plugs shall be securely installed in pipe ends and a 2" x 2" treated post extending 12" above the ground line shall mark the pipe end location.

5.7 BORINGS: Borings shall be accomplished in accordance with Mississippi State Highway Department or Railway Standards. The contractor shall provide all necessary sheeting, bracing, cribbing, supports and appurtenances to insure the proper line and grade throughout the entire length of the crossing.

A. Casing Pipe: Casing Pipe shall be installed as indicated on the Contract Drawings. Joints shall be completely welded to provide structural integrity and shall be water tight.

B. Carrier Pipe: Carrier pipe may be any of the allowed options of piping. However, the piping and joints shall be capable of withstanding the stress exerted by pushing the pipe within the casing.

C. Carrier Pipe Supports: Supports for the carrier pipe shall be as recommended by the manufacturer for such installation. Supports shall be spaced to adequately support the piping under surcharged sewage conditions.

D. Casing Seal: The annulus between the casing and carrier pipe shall be sealed at each end with a quick setting grout.

5.8 RELATION TO WATER MAINS:

A. Horizontal Separation: Whenever possible, sewers should be laid at least 10 feet, horizontally, from any existing or proposed water main. Should local conditions prevent a lateral separation of 10 feet, a sewer may be laid closer than 10 feet to a water main if:

1. It is laid in a separate trench.
2. It is laid in the same trench with the water mains located at one side on a bench of undisturbed earth.
3. In either case the elevation of the crown of the sewer is at least 18 inches below the invert of the water main.

B. Vertical Separation: Whenever sewers must cross under water mains, the sewer shall be laid at such an elevation that the top of the sewer is at least 18 inches below the bottom of the

water main. When the elevation of the sewer cannot be buried to meet the above requirement, the water main shall be relocated to provide this separation or reconstructed with slip-on or mechanical-joint ductile iron pipe, or prestressed concrete cylinder pipe for a distance of 10 feet on each side of the sewer. One full length of water main should be centered over the sewer so that both joints will be as far from the sewer as possible.

C. Special Conditions: When it is impossible to obtain proper horizontal and vertical separation as stipulated above, the water main should be constructed of slip-on or mechanical-joint ductile iron pipe, or prestressed concrete cylinder pipe and the sewer constructed of mechanical-joint ductile iron pipe and both services should be pressure tested to assure water tightness.

5.9 CONTINUATION OF SERVICE

The existing wastewater system shall remain in operation during the duration of the project. Should removal of facilities from operation become necessary, a plan which will avoid or minimize pollution effects on any receiving stream and provide alternate service for wastewater facilities shall be reviewed and approved in advance by the Mississippi Department of Environmental Quality and shall be adhered to during construction.

6.0 TESTING

6.1 Ductile Iron Pipe:

A. Field Inspection: The Engineer shall perform visual inspection of the material prior to placement by the Contractor. The Engineer may make non-destructive tests to determine the soundness of the pipe. The Contractor shall assist the Engineer in handling and moving the pipe as required.

B. Material Test: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittals. No other material test shall be required.

6.2 PVC PIPING: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittal. No other material test shall be required.

6.3 STEEL CASING PIPE: Material test shall be included as part the submittal. No other material test shall be required.

6.4. BEDDING MATERIAL AND STABILIZATION MATERIAL: Test for gradation and test for material passing the No. 40 sieve shall be as follows:

Gradation	- AASHTO T 88
Liquid Limit	- AASHTO T 89
Plasticity Index	- AASHTO T 90

One set of each test listed above will be required for every 500 cubic yards or major fraction thereof.

6.5 COMPACTION TESTS: Compaction tests shall be performed in accordance with AASHTO T 191 or ASTM D 2922. Maximum compaction shall be determined in accordance with AASHTO T99. Compaction tests for sewer pipe related work shall not be less than as follows:

(Number of Compaction Tests)

AASHTO T-99	
AASHTO T-191	or
ASTM D 2922	
Select Backfill Material OR	
Stabilization Material	1
One per 100 CY	
Bedding Material	2
One per 600 LF	
Tamped Backfill	2
One per 600 LF	

6.6 INFILTRATION/EXFILTRATION TEST: The Contractor shall provide all plugs, water supply, measuring devices, and all other equipment, material, labor and supervision to measure the infiltration and exfiltration tests as specified below. The Contractor shall perform the test in the presence of the Engineer. All gravity sewer pipe shall be tested in accordance with the following applicable requirements.

A. Infiltration Test: The infiltration test shall be conducted between adjacent manholes. The outlet pipe on the downstream manhole shall be plugged and tested for water tightness to the satisfaction of the Engineer. The accumulated depth of water in the downstream manhole shall be read at 12 hour intervals for two (2) days and the infiltration rate calculated from the data obtained. Any section exceeding an infiltration rate of 200 gallons/day/inch diameter/mile shall be relayed at the Contractor's expense. This means that the Contractor shall locate and repair leaks as necessary to pass the infiltration test. Infiltration test shall be utilized only when ground water is above pipe.

B. Exfiltration Test: The exfiltration test shall be conducted between adjacent manholes. The inlet pipes in the downstream and upstream manholes shall be plugged. The line being tested shall be filled with water until water depth becomes two (2) feet above top of pipe being tested in the upstream manhole. The water loss shall be measured in the upstream manhole at 12

hour intervals for two (2) days and the exfiltration rate calculated from the data obtained. Any section exceeding an exfiltration rate of 200 gallons/day/inch diameter of pipe/mile shall fail the test. The Contractor shall locate and repair leaks as necessary to pass the exfiltration test. A low pressure air test conforming to ASTM C-828-80 or latest revision may be used in lieu of the exfiltration test.

6.7 DEFLECTION TESTS: 100% of the PVC gravity sewer shall be tested 30 days after the final backfill has been in place by the following method:

Use a "Go-, no-go" mandrel which is sized to such dimensions that it will not "go" when encountering a deflection greater than 5%. The instructions for its use are as follows:

A. Completely flush the line making sure the pipe is clean of any mud or debris that would hinder the passage of the mandrel.

B. During the final flushing of the line, attach a floating block or ball to the end of the mandrel, pull rope and float the rope through the line. (A nylon ski rope is recommended)

C. After the rope is threaded through the line, connect the pull rope to the mandrel and place the mandrel in the entrance of the pipe.

D. Connect a retrieval rope to the back of the mandrel to pull it back if necessary.

E. By hand, remove all the slack in the pull rope and place a tape marker on the top at the end of the pipe where the mandrel will exit, determining the location of the mandrel in the line.

F. By hand, draw mandrel through the sewer lines. If any irregularities or obstructions are encountered in the line, they shall be corrected by the Contractor.

G. If a section with excessive deflection is found, locate it; dig down and uncover the pipe; if any damaged pipe is found, replace it; if pipe is not damaged, replace and thoroughly tamp haunching and initial backfill; replace remainder of backfill.

H. Re-test this section for deflection.

STANDARD SPECIFICATION
FOR LINING DUCTILE IRON PIPE
FOR SEWER SERVICE

1.0 Condition of Ductile Iron Prior to Surface Preparation

All ductile pipe and fittings shall be delivered to the application facility without asphalt, cement lining, or any other lining on the interior surface. Because removal of old linings may not be possible, the intent of this specification is that the entire interior of the ductile iron pipe and fittings shall not have been lined with any substance prior to the application of the specified lining material and no coating shall have been applied to the first six inches of the exterior of the spigot ends.

2.0 Lining Material

The Standard of Quality is Protecto 401 Ceramic Epoxy. The material shall be an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment. Any request for substitution must be accompanied by a successful history of lining pipe and fittings for sewer service, a test report verifying the following properties, and a certification of the test results.

- A. A permeability rating of 0.00 when tested according to Method A of ASTM E-96-66, Procedure A with a test duration of 30 days.
- B. The following test must be run on coupons from factory lined ductile iron pipe:
 - 1. ASTM B-117 Salt Spray (scribed panel) - Results to equal 0.0 undercutting after two years.
 - 2. ASTM G-95 Cathodic Disbondment 1.5 volts @ 77°F. Results to equal no more than 0.5mm undercutting after 30 days.
 - 3. Immersion Testing rated using ASTM D-714-87.
 - a. 20% Sulfuric Acid - No effect after two years.
 - b. 140°F 25% Sodium Hydroxide - No effect after two years.
 - c. 160°F Distilled Water - No effect after two years.
 - d. 120°F Tap Water (scribed panel) - 0.0 undercutting after two years with no effect.
- C. An abrasion resistance of no more than 3 mils (.075mm) loss after one million cycles using European Standard EN 598: 1994 Section 7.8 Abrasion Resistance.

3.0 Application

A. Applicator

The lining shall be applied by a certified firm with a successful history of applying linings to the interior of ductile iron pipe and fittings.

B. Surface Preparation

Prior to abrasive blasting, the entire area to receive the protective compound shall be inspected for oil, grease, etc. Any areas with oil, grease, or any substance which can be removed by solvent, shall be solvent cleaned to remove those substances. After the surface has been made free of grease, oil or other substances, all areas to receive the protective compounds shall be abrasive blasted using sand or grit abrasive media. The entire surface to be lined shall be struck with the blast media so that all rust, loose oxides, etc., are removed from the surface. Only slight stains and tightly adhering oxide may be left on the surface. Any area where rust reappears before lining must be reblasted.

C. Lining

After the surface preparation and within 8 hours of surface preparation, the interior of the pipe shall receive 40 mils nominal dry film thickness of Protecto 401. No lining shall take place when the substrate or ambient temperature is below 40 degrees Fahrenheit. The surface also must be dry and dust free. If flange pipe or fittings are included in the project, the lining shall not be used on the face of the flange.

D. Coating of Bell Sockets and Spigot Ends

Due to the tolerances involved, the gasket area and spigot end up to 6 inches back from the end of the spigot end must be coated with 6 mils nominal, 10 mils maximum using Protecto Joint Compound. The Joint Compound shall be applied by brush to ensure coverage. Care should be taken that the Joint Compound is smooth without excess buildup in the gasket seat or on the spigot ends. Coating of the gasket seat and spigot ends shall be done after the application of the lining.

E. **Number of Coats**

The number of coats of lining material applied shall be as recommended by the lining manufacturer. However, in no case shall this material be applied above the dry thickness per coat recommended by the lining manufacturer in printed literature. The maximum or minimum time between coats shall be that time recommended by the lining material manufacturer. **To prevent delamination between coats, no material shall be used for lining which is not indefinitely recoatable with itself without roughening of the surface.**

F. **Touch-Up & Repair**

Protecto Joint Compound shall be used for touch-up or repair in accordance with manufacturer's recommendations.

4.0 Inspection and certification

A. **Inspection**

1. All ductile iron pipe and fitting linings shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PA-2 Film Thickness Rating.
2. The interior lining of all pipe barrels and fittings shall be tested for pinholes with a nondestructive 2,500 volt test. Any pinholes found shall be repaired prior to shipment.
3. Each pipe joint and fitting shall be marked with the date of application of the lining system along with its numerical sequence of application on that date and records maintained by the applicator of his work.

B. **Certification**

The pipe or fitting manufacturer must supply a certificate attesting to the fact that the applicator met the requirements of this specification, and that the material used was as specified.

5.0 Handling

Protecto 401 lined pipe and fittings must be handled only from the outside of the pipe and fittings. No forks, chains, straps, hooks, etc. shall be placed inside the pipe and fittings for lifting, positioning, or laying. The pipe shall not be dropped or unloaded by rolling. Care should be taken not to let the pipe strike sharp objects while swinging or being off loaded. Ductile iron pipe should never be placed on grade by use of hydraulic pressure from an excavator bucket or by banging with heavy hammers.

MANHOLES

1.0 GENERAL:

This item shall consist of furnishing all materials, labor, supervision, tools, equipment and incidentals for the construction of standard manholes, in accordance with the Contract Drawings and Specifications. Included in the work are structural excavation, backfill, and disposal of excess material.

2.0 APPLICABLE DOCUMENTS:

The following publications form a part of this specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

American Society for Testing and Materials (ASTM)

A 48/A48M	Standard Specification for Gray Iron Casting
C 39/C39M	Standard Specification fo Test for Compressive Strength of Cylindrical Concrete Specimens
C 443	Standard Specification for Joints for Circular Concrete Pipe and Manholes Using Rubber Gaskets
C 478	Standard Specification for Precast Reinforced Concrete Manhole Sections
C 497	Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile
C 2922	Density of Soil and Soil Aggregate in Place by the Nuclear Method (Shallow Depths)

American Association of State Highway and Transportation Officials (AASHTO):

M-198	Standard Specifications for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.
T-99	Standard Method of Test for the Moisture-Density Relations of Soils Using a (2.5kg) Rammer and (305 mm) Drop.
T-191	Standard Method of Test for Density of Soil In-Place by the Sand-Cone Method.

3.0 SUBMITTALS

The following tests or data shall be submitted to the Engineer from the Contractor for approval prior to incorporation into the work:

3.1 Certificates: The Contractor shall furnish certificates from supplier certifying the products conform to the required specifications included herein for the following items:

- 3.1.1. Flexible Plastic Gaskets
- 3.1.2. Precast Manhole Bases
- 3.1.3. Precast Manhole Riser Sections
- 3.1.4. Manhole Steps
- 3.1.5. Manhole Frames and Covers (ASTM A 48)
- 3.1.6. Epoxy Grout

3.2 Catalogue Cuts or Brochures: The Contractor shall also submit catalogue cuts or product brochures providing descriptive data, recommended application and use, and installation procedure for the following items:

- 3.2.1. Manhole Frames and Covers
- 3.2.2. Epoxy Grouts
- 3.2.3. Manhole Steps

4.0 MATERIALS

4.1 Manhole Riser Sections: Manhole riser sections shall be precast reinforced sections conforming to ASTM C 478 and as shown on the Contract Drawings.

4.2 Joints: Joints for precast riser sections shall be concrete pipe type flexible plastic gaskets. Joint material shall be preformed conforming the requirements of AASHTO M-198. Installation shall be in accordance with manufacturer's recommendations.

4.3 Concrete Manhole Bases: Concrete manhole bases shall be precast or cast-in-place as follows:

4.3.1 Cast-In-Place Manhole Bases and Box Type Bases (if used): Concrete and reinforcing steel shall conform to the requirements of Technical Specifications - CONCRETE.

4.3.2 Precast Concrete Bases: Precast concrete bases shall conform to the requirements of ASTM 478 with reinforcing steel (size and spacing as indicated on the plans).

4.4 Manhole Steps: Manhole steps shall be plastic coated corrosion resistant and shall be installed as shown on the Contract Drawings.

4.5 Cement Grout: Cement grout shall be high strength, non-metallic conforming to Corps of Engineers CRD-C-588. The grout shall be V-3 by W. R. Meadows, Inc., Masterflow 713 by Master Builders or equal.

4.6 Manhole Frame and Covers: Manhole frame and covers shall conform to ASTM A 48 as well as to the following requirements. All frame and covers shall be new when installed for the project.

4.6.1 Standard Manhole Cover and Frame - shall be as manufactured by Dews Foundry, Jackson Standard, Model DF-25 (7) or Vulcan Foundry, Model V-1115, 420 Pounds, marked "SEWER", domestic origin, or equal.

4.6.2 Water Tight Manhole Cover and Frame - shall be as manufactured by Vulcan Foundry, Model V2357, or Dews Foundry, Model DF-25(7)W.T., 410 pounds with neoprene gasket, four 5/8 inch stainless steel bolts recessed into cover. Cover labeled "SEWER", domestic origin, or approved equal.

4.7 Epoxy Grout: Epoxy Grout shall be high strength non-metallic, non-shrinking. The grout shall be as by EMBECO, Inc., SEAL-COAT or approved equal.

4.8 Drop Manholes: Concrete for drop manholes shall conform to the requirements of Technical Specifications - CONCRETE. Pipe and fittings shall be the same material and size as the incoming gravity sewer.

4.9 Flexible Connection: At all sewer connections to manholes, provide gasket flexible watertight connection that allows for differential settlement of the pipe and manhole wall.

4.10 All manholes: All manholes shall be lined inside with a sixteen (16) mil dry film thickness of an acceptable coal tar epoxy system.

5.0 CONSTRUCTION

5.1 Earthwork

5.1.1 General: Excavation shall be to the extent required to allow proper construction of the manhole. Shoring and sheeting shall be utilized where required by Federal, State and local codes and regulations for safe working conditions. In addition, shoring and sheeting shall be required to protect the integrity of adjacent structures or prevent adverse effects on surrounding areas. Dewatering shall be employed to the extent required to allow dry working conditions.

5.1.2 General Excavation: The Contractor shall "lay back" or employ shoring and

sheeting as required to assure stability of the excavation. Material shall be stockpiled so as not to surcharge adjoining pipe trenches. Topsoil shall be separated so as to allow the maximum reuse in grassing operations.

5.1.3 Structural Excavation: The area immediately beneath the manhole bases shall be graded and compacted. Compaction shall be to 96% of maximum laboratory density as determined by AASHTO T 99. Should unsuitable material be encountered, the Engineer may direct that the area be over excavated and filled with stabilization material. Specification for stabilization material and payment for such shall be in accordance with Technical Specifications.

5.1.4 Backfilling: Backfill material shall consist of select backfill in accordance with Technical Specifications. Backfilling shall be uniformly placed around the structure in 10-inch layers and be compacted to 90% of maximum density to full depth in unimproved areas. Backfill in paved areas and within five feet to any edge of pavement shall be compacted to 95% of maximum laboratory density in 8-inch layers to the subgrade line. Refer to Technical Specifications.

5.1.5 Salvage: Manhole frames and covers removed during excavation shall remain the property of the Owner and shall be delivered to a location designated by the Owner. All other items removed shall be disposed of by the CONTRACTOR at his expense.

5.2 Riser Installation: Precast concrete riser sections shall be installed plumb and in accordance with the details shown on the Contract Drawings. Joints shall be installed in accordance with manufacturer's recommendations.

The manhole invert channels shall be formed in the bases, smooth and semi-circular in shape conforming to the inside of the adjacent sewer section. Changes in the direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit. Changes in size and grade of the channels shall be formed directly in the concrete of the manhole base. The joint between the base and riser section shall be sealed with epoxy grout. Clean pea gravel shall be used as the epoxy grout filler.

Standard manhole cut-outs and lifting holes shall be sealed with epoxy grout.

5.3 Cast-In-Place Concrete: Bases, flat tops, and drop manhole risers shall be constructed in accordance with Technical specifications - CONCRETE.

5.4 Manhole Steps: Manhole steps shall be installed during the manufacturing of the riser or cone sections. Risers and cones shall be joined so the steps are vertically aligned.

5.5 Manhole Frame and Covers: Manhole frame and covers shall be set and grouted in place with cement grout. For manholes located in roads or streets, the manhole cover shall be flush with pavement or surface course.

6.0 TESTING

6.1 General: The Contractor shall conduct (and bear the cost of) all testing (Laboratory Approved by the Owner) as directed by the Engineer and furnish results of such tests prior to incorporating the material into the work. All testing is subsidiary to Manhole Payment Items.

6.1.1 Cast-In-Place Concrete Items: The concrete quality testing for manhole bases, drop manholes, and valve boxes shall be tested in accordance with Technical specifications - CONCRETE.

6.1.2 Manhole Risers and Precast Concrete Bases: Manhole risers and precast concrete bases shall be tested for concrete compressive strength. If the place of manufacture is local and reasonably available to the Engineer, Paragraph (a) shall be followed for testing requirements. Should the place of manufacture not be available, Paragraph (b) shall apply.

The contractor shall prepare (in the presence of the Engineer) standard rodded concrete cylinder or cylinders compacted and cured in a similar manner to the manhole sections. Concrete for such cylinders shall be typical fresh concrete mix drawn from the actual casting operation of a riser or base. Cylinders shall be tested in accordance with ASTM C 39. The average compressive strength shall be equal to or greater than the specified design strength (4000 psi). Not more than 10% of the cylinders shall fall below the design strength (4000 psi). In no case shall any cylinder tested fall below 3200 psi. Number of such cylinder tests shall be as follows:

6.1.2.1 One set of cylinders for each day's run castings or

6.1.2.2 One set of cylinders for each 200 linear feet of riser sections manufactured.

6.1.2.3 One set of cylinders per 20 bases or flat tops manufactured.

The Engineer may require additional tests should compressive test results fail.

6.1.3 Earthwork Test: Maximum laboratory density shall be measured in accordance with AASHTO T-99. Field densities shall be determined in accordance with AASHTO T-191 or ASTM D 2992. Standard proctors and field densities shall be performed in accordance with the following schedule.

Standard proctor tests shall be required for earthwork associated with manhole construction. At least two (2) field density tests shall be conducted for earth work associated with each manhole construction.

6.1.4 Inspection for Watertightness: All manholes shall be inspected for watertightness prior to placing into service.

RESTORATION OF ROADS, DRIVEWAYS, FENCES

LAWNS AND OTHER GRASSED AREAS

1.0 GENERAL

The work under this item of work shall consist of furnishing all necessary materials, labor, supervision, tools, equipment and incidentals for the restoration of roads, driveways, fences, lawns and other grassed areas so as to provide satisfactory repair to all damage caused by general construction work. It is the intent of this Specifications to restore all such features to the general conditions that existed prior to construction activity insofar as practical. It is not the intention of this Specification that trees, which must be cut and removed, be restored. The Contractor is expected to be familiar with the overall area and be satisfied as to the materials required and level of effort needed to accomplish such restoration in accordance with this Specification.

2.0 APPLICABLE PUBLICATIONS

The following publications form a part of this specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work:

American Association of State Highway and Transportation Officials (AASHTO).

- T 99 Standard Method of Test for the Moisture Density Relations of Soils Using a 5.5 lg. (2.5 kg) Rammer and a 12-inch (305 mm) Drop.
- T 167 Compressive Strength of Bituminous Mixture
- T 191 Standard Method of Test for Density of Soil In-Place by the Sand-Cone Method
- T 230 Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures

American Society for Testing and Materials (ASTM)

- D 2922 Density of Soil and Soil Aggregate in Place by the Nuclear Method (Shallow Depths)

Mississippi Department of Transportation (MDOT)

Standard Specifications for Road and Bridge Construction, Current Edition.

Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)

3.0 SUBMITTALS

3.1 Mix Designs: Design mix will be provided by Contractor and approved by Engineer prior to production of asphalt.

4.0 MATERIALS

4.1 Subbase and Base Courses: Subbase and base courses under paved areas shall be as specified in MDOT Specification Section 301.

4.2 Prime Coat: Prime coat shall consist of Grade MC-30 or Grade MS-70 in accordance with the applicable requirements of MDOT Specification Section 702.

4.3 Bituminous Pavement: Bituminous Pavement for roadway and parking areas, wearing and binder courses, shall consist of a mix in accordance with MDOT Specifications Section 403. Materials shall conform to the following subsection of MDOT Specifications Sections 702 and 703.

Bituminous Materials (AC-20) 702.01 Aggregate

A. **BC-1 Binder Course**

B. **SC-1 for Surface Course** Filler 703.14

C. **Topsoil:** Topsoil shall be in accordance with Technical Specifications – SEEDING AND SODDING.

E. **Seeding and Sodding:** Seeding and sodding operations shall be in accordance with Technical Specifications - SEEDING AND SODDING.

5.0 CONSTRUCTION

5.1 Maintenance of Traffic: Prior to limiting or restricting traffic on any street or road, the Contractor shall obtain permission from the Engineer. Through or local traffic shall at all times be accommodated by the use of temporary approaches, crossings or detours (if allowed by the

Engineer). Satisfactory (to the Property Owner) ingress and egress to any public or private property shall be properly maintained. Proper barricades, signs and detour signs shall be provided by the Contractor to adequately warn motorists of obstructions ahead. Lighted (flashing) barricades shall be used at night.

Flagmen shall be provided to direct traffic around equipment and for one way movement of traffic around equipment and for one way movement of vehicles. The Contractor may have to stop construction and restore full traffic during certain rush hours.

The Contractor shall at all times (unless otherwise permitted in writing by the Engineer) maintain open one lane to traffic during construction operations and restore roadways to two-way traffic during non-construction hours. All traffic shall be maintained in accordance with the MUTCD, current Edition.

5.2 Repair of Asphalt/Concrete Streets/Driveways/Parking Lots:

A. Removal and Earthwork: The existing asphalt pavement shall be uniformly saw cut on straight lines and the material shall be removed. Other methods of cutting the existing asphalt surface which will result in a uniform straightedge similar to a sawed cut may be acceptable. Upon completion of the pipe laying, select backfill shall be placed in the excavation in maximum 8-inch lifts and compacted to at least 90% of maximum laboratory density to within one foot of the top subgrade and to 95% of maximum laboratory density in the upper one foot of the subgrade.

Maximum density of typical select backfill material shall be determined in accordance with AASHTO T 191 or ASTM D 2922. Portable mechanical tampers or vibratory compactors shall be used in the trenches. Rollers may be used at street level. Existing base and asphalt surfaces which become undermined during construction shall be removed until firm undisturbed subgrade is reached.

A. Clay Gravel Base Course: Class 4, Group "B" as per 2006 Edition of Mississippi State Highway Department Road and Bridge Specification.

B. Asphalt Repair: Temporary Asphalt repair shall be made using 2" thickness of milled asphalt material.

C. Concrete Repair: Concrete repair shall be made using 3,000 psi concrete meeting Technical Specifications - CONCRETE

D. Prime Coat: Prime coat shall be applied to exposed existing base material prior to overlay with asphaltic base course in accordance with MDOT Specification Section 408.

F. Tack Coat: Tack coat shall be applied to existing or new asphaltic wearing course and asphaltic base, or concrete which is to require asphalt wearing course.

G. Asphalt Wearing Course: Placement and compaction of the bituminous pavement shall be in accordance with MDOT Specification Section 403.03.

E. Utilities: All utility covers excavated during removal of streets, driveways, parking lots shall be restored to finished grade.

5.3 Driveways and Sidewalks: Driveways and sidewalks shall be repaired in similar manner to the original construction. Asphalt drives shall be saw cut where required and repaired in accordance with Paragraph (b) of this Specification. Concrete drives shall be saw cut or removed to the next joint. The minimum thickness for concrete driveway repair is 6 inches and for sidewalks is 4 inches.

Concrete surfaces shall be properly tooled and receive a broom finish. Installation (if required) of new driveway drainage culvert shall be made only at the direction of the Engineer. The Contractor shall take all reasonable precautions to allow for reuse of existing drainage culverts.

5.4 Repair to Gravel Roads: Gravel roads shall be backfilled and compacted in accordance with Paragraph (B) of this Specification. The final surface shall consist of 12-inch in-place compacted clay gravel. Compaction shall be to 100% of maximum laboratory density in accordance with AASHTO T99.

5.5 Repair to Lawns:

A. General: The Contractor shall exercise extreme care to minimize damage to improved lawns. Trees and shrubs within the limits of work shall be removed only for essential construction requirements. Any shrubs, which are removed or damaged, shall be replaced by satisfactory (to the Property Owner) planting by the contractor. Any grass seed areas, roads, streets, driveways, culverts, fences, water lines, metal boxes or other items (excluding trees unavoidably cut) which are damaged by the Contractor, shall be satisfactorily restored by Contractor. Acceptance of improved lawn repairs shall be based on the firm establishment of live stand of grasses and live growth of any replanted and acceptable shrubs. The Contractor shall water and fertilize such areas until healthy growth of grass (and shrubs, if applicable) are attained.

B. Grading: The surface areas shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse effects to adjoining properties.

C. Topsoil: The Contractor shall strip topsoil and sod and stockpile for later use. Upon completion of trenching over the area. Additional topsoil shall be furnished if required (at no additional cost) to provide a uniform thickness of 3 inches. Lime at a rate of 1 - ½ tons per acre and fertilizer (13-13-13) at a rate of 800 pounds per acre shall be applied as needed to further

establish grass growth.

D. Grassing: Grass seed, sprigs, or sod similar to the existing lawn grasses shall be planted in accordance with the supplier's recommendations. Winter cover grasses such as rye grass shall be applied (in addition to planting the permanent grasses) if seeding, sprigging, or sodding is done at a time of year when the permanent grasses will not actively grow. The type (s) of permanent grasses shall be the same as the grass (es) in the damaged lawns. If the lawn repairs are accomplished between September 1 and March 1, the Contractor shall continue the restoration work during the next period of March 15 and April 5 and mow the grass and continue the restoration until satisfactory growth of the permanent grass (es) is obtained. Such additional restoration work shall include the 1 - ½ tons of lime per acre, application of 13-13-13 fertilizer at a rate of 800 pounds per acre and replanting and watering permanent grass as necessary to obtain satisfactory (to Engineer) growth. No time will be charged against the Contract Time for any such additional restoration work.

Sodding: Sodding shall be in accordance with Technical Specifications: - Seeding and Sodding

5.6 Erosion Control: During all phases of construction, the Contractor shall adequately protect all work from adverse erosion. Soil shall not be allowed to flow off the limits of work area. The Contractor shall employ the use of ditch checks, matting, temporary grass cover, blankets, or other measures to control erosion. The Contractor shall be responsible to correct damage caused by erosion. During the construction of this project, all work areas will be strictly monitored. All trench lines will be kept in excellent condition, all streets and drives will receive careful maintenance, keeping potholes and settled areas filled in. Dust control is essential and will also be strictly monitored.

5.7 General Grassing of Unimproved Areas

A. General: The Contractor shall seed and establish grass growth in all disturbed areas in unimproved areas (to include pastures and roadsides). Acceptance of the grass cover shall be based upon the firm establishment of a live stand of grass. The contractor shall water such grass if natural rainfall fails to adequately provide moisture. On slopes and other areas subject to erosion, grassing shall be accomplished as soon as practical (within 48 hours unless weather is prohibiting) after finish grading operations.

B. Grading: The surface area shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse effects to adjoining properties.

C. Topsoil: The Contractor shall remove existing topsoil and stockpile for later use. Upon completion of backfilling (to establish contours as before construction), the topsoil shall be uniformly spread back over the area. The Engineer may require additional topsoil be furnished by the Contractor, if in the opinion of the Engineer, adequate provisions and efforts

were not made by the Contractor to stockpile and re-use existing topsoil material.

D. Fertilizer and Agricultural Limestone: The Contractor shall uniformly apply 800 lbs. per acre of 13-13-13 fertilizer and also apply two (2) tons per acre of agricultural limestone to the area to be seeded. The fertilizer and limestone shall be tilled into the soil to a depth of four (4) inches.

Seeding: Seed shall be uniformly sown in accordance with Technical Specification - Seeding and Sodding

Sodding: Sod shall be placed in accordance with Technical Specification - Seeding and Sodding

E. Mulch Cover: Erosion prone areas such as steep slopes and highway shoulders shall receive a layer of loose straw mulch or equivalent at the rate of one and one-half (1-1/2) tons per acre. The mulch cover shall be established by the application of an emulsified asphalt or by "crimping" parts of the material into the soil.

5.8 Miscellaneous Items: Items such as fences, gates, paved ditches, and other items shall be replaced or repaired as required for restoration. Should additional fencing material be required, new post and new wire of similar size, type and gauge shall be provided and installed.

5.9 General Care: Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees, which do not have to be removed in the opinion of the Engineer, and which receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.

6.0 TESTING

6.1 General: All sampling and testing shall be accomplished by the testing laboratory approved by the Owner and employed by the Contractor to perform such services. Results shall be immediately forwarded to the Engineer by the Contractor.

6.2 Earthwork: Earthwork directly involved with road and street repair shall be tested as follows:

A. Moisture Density Relationship (Standard Proctors): Two tests of sampled native material shall be required. Tests shall be in accordance with AASHTO T 99.

B. Field Density: A minimum of two and a maximum of four field density tests shall be required. Density tests shall be in accordance with AASHTO T 191 or ASTM D 2922.

C. Topsoil: Two pH tests and two organic content tests (wet combustion method) will be required.

CONCRETE

1. GENERAL

A. This item shall consist of furnishing all materials, labor, supervision, tools, equipment and incidentals and performing all forms of work; furnishing and placing reinforcement, inserts and anchors; mixing, placing, curbing, and furnishing of portland cement concrete.

B. The work includes, but is not necessarily limited to manholes, pumping stations, lift stations and minor concrete work.

2. APPLICABLE DOCUMENTS

The following publications form a part of this Specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publication referenced shall apply to the work.

A. American Society for Testing and Materials (ASTM):

A 615 Billet Steel for Concrete Reinforcement

C 31/C 31M Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field

C 33 Specifications for Concrete Aggregates

C 39/C 39 M Compressive Strength of Molded Concrete Cylinders

C 143 Slump of Portland Cement Concrete

C 150 Portland Cement

B. Mississippi Department of Transportation (MDOT):

Standard Specifications for Road and Bridge Construction Current Edition.

3. SUBMITTALS:

The following data shall be submitted to the Engineer for review prior to incorporation into the work:

A. Letter from the manufacturer certifying the concrete mix conforms to the requirements for Class

B concrete as defined in Section 804 of the MDOT Standard Specifications for Road and Bridge Construction.

B. Letter of certificate from the manufacturer certifying that the reinforcing steel conforms to the herein specified requirements.

4. MATERIALS:

A. General: The concrete shall be ready-mix concrete manufactured by a plant for delivery to the site of the work in a plastic state. The Contractor may batch the concrete at the work site by use of portable mixers providing the following requirements are met:

1. Facilities shall be provided to properly weight, proportion and control the components of the concrete mix.
2. The mixer(s) shall be of such capacity so as to allow the complete placement of the plastic concrete mix prior to the initial set of any portion of the particular concrete pour.

B. Concrete Mix: The concrete materials and mix design, shall conform to the requirements for Class B concrete Section 804, MDOT Standard Specifications for Road and Bridge Construction. The compressive strength of the concrete shall be a minimum of 3000 psi at 28 days, or earlier. Type I Portland Cement shall be used in the mix, except where otherwise specified or permitted. Prior to producing any concrete for cast-in-place construction on the project, the Contractor shall submit to the Engineer the proposed mix design and shall obtain Engineer's approval of the mix design.

C. Reinforcing Steel - shall be new stock, deformed bars conforming to ASTM A 615, Grade 40 or Grade 60.

D. Curing Material - shall consist of wetted burlap, wetted cotton mats, plastic sheeting, or an approved liquid membrane material which will satisfactorily keep the new concrete in a moist condition for at least seven (7) days.

5. CONSTRUCTION:

A. Weather Limitations: Concrete shall be placed when the atmospheric temperature is a minimum of thirty-five (35) degrees F. and rising. Newly placed concrete shall be protected from cold temperatures for at least four (4) days at a temperature of not less than forty (40) degrees F.

B. Forms: Forms shall be securely anchored in place and properly aligned. Wood forms shall be oiled prior to placement of fresh concrete mix.

C. Reinforcement: Reinforcing bars shall be securely mounted by the use of chairs or other approved methods so as to not become displaced during placement of concrete mix. The positioning of reinforcing by working the bars into the newly placed concrete mix shall not be allowed.

D. Placement: The plastic concrete mix shall be worked (and vibrated if required) into the form work. The mix shall be consolidated so as to remove all voids and finished to form a true and level surface.

E. Curing: The hardened concrete shall be kept moist by the use of curing materials for a minimum of seven (7) days.

F. Slump Requirements: The following slump requirement shall apply:
Class B Concrete 2-4 Inches

G. Chamfered Corners: All exposed corners shall be chamfered one (1) inch or as indicated.

H. Finish:

1. All surfaces shall be "floated" to provide a uniform and level surface. Defects (honeycombs, ties, etc.) shall be repaired. No rubbing shall be required.

2. Sidewalks, driveways and other surfaces subject to pedestrian traffic shall be floated as noted in paragraph 1 above and shall receive a "broom" finish.

6. TESTING

The following test shall be required:

A. Slump: The Engineer shall test the concrete mix for conformance to the slump requirements as required. Test shall be in accordance with ASTM C 143.

B. Compressive Strength: The Engineer shall sample the concrete mix and prepare test cylinders for conformance to the compressive strength requirements. The Contractor shall transport the cylinders to the testing laboratory (employed by the Contractor) and have the cylinders tested in accordance with ASTM C 31 and C 39. The results of such test shall be forwarded to the Engineer. Test shall be performed at the following schedule.

One test per 15 cubic yards or major fraction thereof. A minimum of one test for each day of mixing shall be performed.

SEEDING AND SODDING

1.0 DESCRIPTION

This item consists of furnishing all labor, supervision, materials, tools, incidentals and equipment and performing all work for topsoiling, tilling, fertilizing, seeding, watering, and otherwise establishing, protecting and maintaining seeded and sodded areas as required by the Contract Drawings and these specifications, and including repair, refertilizing and reseeded as required until final inspection and acceptance of the project.

2.0 SUBMITTALS

Certificates for fertilizer, limestone, seed.

3.0 MATERIAL

3.1 Topsoil: Topsoil shall be the surface layer of soil that is stockpiled by the Contractor during stripping and/or excavation on the site. The topsoil shall be free of subsoil, clay, lumps, stones, brush or seed. Topsoil shall have a pH value of not less than 4.5 nor more than 8.0.

3.2 Lime: Lime shall be ground limestone containing not less than 80% of total carbonates and shall be ground to such fineness that 80% will pass through a No. 10 mesh sieve and 40% will pass through a No. 40 mesh sieve.

3.3 Fertilizer: Fertilizer shall be water soluble commercial carriers of available plant food elements or combinations thereof, as stated herein and shall conform to the applicable state fertilizer laws. They shall be uniform in composition, dry, and free flowing materials in condition for application by suitable equipment. The fertilizer shall be delivered in standard bags or other convenient standard containers, each fully labeled with manufacturer's guaranteed analysis. Any fertilizer shall contain not less than the percentages by weight of the ingredients set out as follows: (1) Nitrogen, 13% (2) Phosphorous P O, 13%, (3) Potash K C, 13%. Invoices for fertilizer will show the kind and have analysis furnished.

3.4 Seed: Seeds with a minimum pure live seed content of 90% shall be used. They shall be of the best grade and of known vitality, purity, and germination and shall be delivered in containers bearing seed tags as required by law showing percentages of germination content and purity of seed as well as percentages of weed seed content.

All seeds shall be free of wild onion, Canadian thistle, Johnson grass, crab grass or other seeds of noxious weeds. All seeds shall be furnished in standard containers, or as acceptable to the Engineer. Seed which has become wet, moldy or otherwise damaged in transit or storage will not be acceptable.

Purity, Germination and Planting Schedule

Spring and Summer Seeding

(March 1 to September 1)

<u>Name</u>	<u>Percent Purity</u>	<u>Percent Germination</u>	<u>Mix (Dry Wt. Lbs.) Per Acre</u>
Hulled Bermuda	95	90	20
Pensacola Bahia	95	90	30

TOTAL

50

Fall and Winter Seeding

(September 1 to March 1)

<u>Name</u>	<u>Percent Purity</u>	<u>Percent Germination</u>	<u>Mix (Dry Wt. Lbs.) Per Acre</u>
Unhulled Bermuda	95	90	20
Pensacola Bahia	95	90	30
Rye	95	85	15
Crimson Clover	95	85	8

TOTAL

73

Seeding in Existing Lawns: Grass seeds for existing lawns shall be the same as the existing grass.

3.5 Leguminous Inoculants: Inoculation media containing live nitrogen-fixing bacteria shall be supplied with all legume seed. The inoculants shall be standard, pure culture of nitrogen-fixing bacteria. Each kind of legume will require a cultural bacteria that is adapted to that particular kind of seed. The bacteria shall be supplied in convenient containers of a proper size to treat the amount of seed to be planted. The legume seeds shall be treated according to the directions, and before the expiration date for use of the media shown on the container.

3.6 Soil for Repairs: for fills or areas to be repaired, soil shall be topsoil of a least equal quality to that which exists in areas adjacent to the area to be repaired.

3.7 Water: Water shall be free from oil, acid, alkali, salt, and other substances harmful to growth of grass, and shall be from a source accepted prior to use.

3.8 Solid Sod: Bermuda or Carpet Grass and shall be native to the locality of the work and shall, when placed be live, fresh, growing grass with at least two and one-half (2 ½) inches of soil adhering firmly to the roots. The sod shall be reasonably free from obnoxious weeds or other

grasses, and shall not contain any matter deleterious to its growth; or which might affect its subsistence or hardness when transplanted. The sod shall be in blocks at least 3" x 8", and free from ragged edges.

4.0 INSPECTION AND TESTS

4.1 Fertilizer and Limestones: Duplicate copies of material invoices shall be furnished to the Engineer. Invoices shall show quantities and grade of fertilizer, quantity of limestone, percentages of calcium carbonate and magnesium carbonate, as applicable, and the percentages of limestone that pass the No. 40 and the No. 10 mesh sieves. Samples of each lot of fertilizer and limestone shall be furnished for testing. Upon completion of project a final check of total quantities of fertilizer and limestone used will be made against total area treated, and if minimum rates of application have not been met, additional quantities of these materials to make up minimum application specified shall be distributed.

4.2 Seed: Contractor shall furnish to the Engineer duplicate signed copies of statement(s) from vendor(s), certifying that each container of seed delivered is labeled in accordance with Federal Seed Act and is at least equal to requirements specified therein. This certification shall be obtained from vendor and shall be furnished before application.

5.0. PREPARATION OF GROUND SURFACE

5.1 General: Equipment, in good operating condition, shall be used for the proper preparation of the ground and for handling and placing all materials. Equipment shall be acceptable before work is started.

5.2 Topsoiling: Topsoil shall be obtained from job site stockpiles formed during stripping and/or excavation operations and shall be free from subsoil, clay lumps, stones, brush, grasses or weeds, excess acids or alkali, or any other material to subsequent, smooth, grading, planting, and maintenance operations.

The topsoil shall be evenly spread on tilled areas to a uniform depth of at least 3 inches after compaction. Spreading shall be performed so that seeding can proceed with a minimum of soil preparation or tilling. After preplanting fertilization is completed, the topsoil shall be compacted by rolling with a cultipacker or by other approved means.

Rehabilitation of the stockpile areas shall include returning the area to near pre-construction conditions, including seeding of the area to re-establish the growth of grass.

5.3 Grading: Previously established grades shall be maintained on the areas to be treated in a true and even condition; necessary repairs shall be made to previously graded areas by means of graders or other approved equipment.

5.4 Tillage: After the areas required to be treated have been brought to the grades shown, the

soil shall be tilled to a depth of at least 4 inches by plowing, disking, harrowing, or other acceptable operations until the condition of the soil is acceptable. The work shall be performed only during period when beneficial results are likely to be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. Undulations or irregularities in the surface shall be leveled before the next specified operation.

6.0 APPLICATION OF FERTILIZER AND LIMESTONE

6.1 Preplanting fertilization of areas to be seeded: Fertilizer shall be distributed uniformly at a rate of 800 pounds per acre over areas to be seeded and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of fertilizer may be part of the operation specified in Section 5.4: TILLAGE of this specifications.

6.2 Liming: Immediately following or simultaneously with incorporation of fertilizer, limestone shall be distributed uniformly at a rate of 4000 pounds per acre, and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of limestone along with fertilizer may be part of the operation specified in Section 5.4: TILLAGE of this specifications.

6.3 Leveling: Surface irregularities resulting from tillage, fertilizing, liming, or other operations shall be leveled before seeding.

6.4 Postplanting fertilization: From 40 to 60 days after seeding, ammonium nitrate or its nitrogen equivalent shall be applied uniformly at a rate of 225 pounds per acre over areas seeded. Fertilizer shall be applied when grass blades are dry to minimize burning. The planted area shall be watered to thoroughly moisten the upper 6 inches of the soil surface after the fertilizer is applied.

7.0 PLANTING SEED

7.1 General : A satisfactory method of sowing shall be employed, using approved mechanical power-drawn drills or seeders, or other approved methods. When drills are used, markers or other means shall be provided to insure that the successive seeded strips will overlap or be separated by a space no greater than 6 inches. When delays in operations extend the work beyond the most favorable planting season for species designated or when conditions are such by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, work shall be halted as directed and resumed only when conditions are favorable or when approved alternate or corrective measure and procedures have been effected. If inspection during or after seeding operations indicates that strips wider than 6 inches have been left unplanted or other areas skipped, additional seed shall be sown.

7.2 Broadcast Seeding: Seeding shall be broadcast either by hand or with acceptable seeding equipment, in combination with fertilizer, or with other acceptable sowing equipment. Seed shall

be distributed uniformly over designated areas. Half of the seed shall be sown with sower moving at right angles to first sowing. Seed shall be covered to an average depth of 1/4 inches by brush harrow, spiketooth harrow, chain harrow, cultipacker, hand rake with wood tines, or other approved device. Seed shall not be broadcast during windy weather.

7.3 Drill Seeding: Drill seeding shall be accomplished with approved equipment with drills set not more than 6 inches apart. Seed shall be sown uniformly over designated areas to average depth of 1/4 inch.

7.4 Sodding: All solid sod shall be procured areas where the soil is fertile and contains a high percentage of loamy topsoil, and from areas that have been grazed or mowed sufficiently to form a dense turf.

Mechanical devices, such as sod cutter, may be used for cutting the sod into strips or blocks. Care shall be exercised at all times to retain the native soil on the roots of the sod during the process of excavating, hauling and planting.

The solid sod blocks shall be transplanted within 24 hours from the time of cutting, unless they are stacked at their destination in a manner satisfactory to the Engineer. All solid sod in stacks shall be kept moist and protected from exposure to the air and sun, and from freezing. In no event shall more than two (2) days elapse between the cutting and planting of the solid sod.

Solid sod shall be planted during the period between March 1st and December 15th, unless written permission is given by the Engineer to extend the planting season. The solid sod shall be placed on the prepared surface with the edges in close contact. All cracks between blocks of solid sod shall be closed with small pieces of fresh sod, and all cracks too small for sod shall be filled by a light dressing of topsoil. The entire sodded area shall then be compacted and watered to the satisfaction of the Engineer. Rollers, hand tamps or other approved equipment may be used for compacting.

Surfaces of solid sodding which, in the opinion of the Engineer, may slide due to the height and slope of the surface or nature of the soil, shall, upon direction of the Engineer, be "pegged" with wooden pegs driven through the sod blocks into firm earth, sufficiently close to hold the sod in place.

8.0 MAINTENANCE

Seeded areas shall be maintained until all work or designated portions thereof have been completed and accepted. Tall grass and weeds that tend to impede the desired grass species shall be mowed, and any damage resulting from these operations shall be repaired at the Contractor's expense.

9.0 ESTABLISHMENT OF GROWTH

9.1 General : The Contractor shall be responsible for proper care of seeded areas while grass is becoming established for three (3) months after completion of treatment on the entire project, unless desired cover is established in a shorter period of time and the Owner shortens responsibility period. The Contractor shall be responsible for providing a satisfactory stand of grass. A satisfactory stand of grass is determined as a cover of living grass in which gaps larger than 12 inches square do not occur as determined by an acceptance inspection made at the end of the maintenance period. Maintenance work shall be performed at the Contractor's expense.

9.2 Mowing: Seeded and sodded areas shall be mowed with acceptable mowing equipment to a height of about 4 inches when average height of grass becomes about 8 inches. When amount of cut grass is heavy, grass shall be removed to prevent destruction of underlying turf. If weeds or other undesirable vegetation threatens to impede the growth of planted species, such vegetation shall be mowed, or in case of excessive growth, shall be uprooted, raked and removed from area.

9.3 Refertilizing: The Contractor will determine areas needing refertilization at least 15 days before application is required. Fertilization shall be distributed on designated area during periods when grass is dry. 13-13-13 grade fertilizer shall be applied uniformly at a rate of 800 pounds per acre. Fertilizer conforming to physical condition, packaging and marking as specified hereinbefore shall be provided.

9.4 Reseeding: The Contractor will determine areas requiring reseeding at least 15 days before period specified for reseeding. Seed specified hereinbefore shall be drilled at rates hereinbefore specified, in a manner that will cause minimum disturbance to existing stand of grass, and at an angle of not less than 15 degrees from direction of previously seeded rows.

CONNECTION TO MAINLINE PIPE (INSERT-A-TEE)

“Connection of the new service lateral* to the mainline shall be accomplished by means of a compression-fit service connection. The service connection shall be specifically designed for connection to the sewer main being installed, and shall be INSERTA TEE as manufactured by INSERTA FITTINGS Co., Hillsboro, Oregon, Telephone (503) 357-2110; Fax (503) 359-5417; or approved equal. Installing using procedures and equipment as referenced in manufacturer’s written installation instructions.”

**Types available for all mainlines*

PART NO.	TYPES	GASKETED BELL SDR 35	GASKETED BELL IPS/SCII 40
1	PVC Hub	ASTM D3034	ASTM D3034 SDR 26
2	Gasket	ASTM F477	ASTM F477
3	Band	301 SS	301 SS
3	Screw	305 SS	305 SS
3	Housing	301 SS	301 SS
4	Rubber Sleeve	ASTM C443	ASTM C443

SECTION 631 - SEWAGE PUMPING STATION

631.01 -Description. The work covered by this section consists of furnishing all labor, equipment and materials and performing all operations in connection with the installation, rehabilitation and/or demolition of solids handling, submersible pumps, pump station, wetwell, valve vault, piping and valves per details as indicated on the plans and as specified herein. The work includes clearing, grubbing, dewatering, bedding, pipe laying, backfilling, testing, fittings, and appurtenances required for a complete installation.

631.01.1 - Manufacturer's Experience. It is the intention of this Specification to cover minimum acceptable quality equipment for a complete installation. The Equipment Manufacturer shall have not less than 5 successful years experience in the design, construction and operation of equipment of the type specified at a minimum of 5 different collection system entities.

The Engineer may require evidence, in the form of operating records, from these collection system entities to substantiate any claims concerning the ability of the proposed sewage pumping equipment to perform as required.

631.01.2 - Supplier's/Manufacturer's Services. A Supplier's and / or Manufacturer's representative for the equipment specified herein shall be made available at the job site in the event of failure or other malfunction of the equipment or basin to verify the problem and take whatever action is necessary for correction thereof. The cost of this service shall be included in the pump supplier's cost.

Upon completion of pump station installation, a Supplier's and/or Manufacturer's representative for the equipment specified herein shall be made available at the job site for start-up, check-out, and testing of all pumps, controls, and other associated pump station equipment to the satisfaction of the Construction Manager, Owner, and the Engineer. The cost of this service shall be included in the pump supplier's cost.

631.02.1 - MATERIALS

631.02.01 - Pumping Station. Contractor shall furnish and install Essco submersible pumping units, complete with motor, equipped with cool agivent apparatus or approved equal. The pump shall be capable of continuously pumping with the liquid level at the top of the volute without overloading. Pumps shall be manufactured by Essco Pumps, Inc. or approved equal. Pumps shall be rated for operating conditions as follows:

# of pumps	2
GPM	80
TDH - feet	66
HP	10
RPM	1750
Solids	4"
Discharge	4'
Volts	230/460
Phase	3

631.02.2 - Pumping Casings. Shall be constructed of 25% chrome iron and shall conform to ASTM A-532 material, and shall be completely clear from suction to discharge without coming into contact with the impeller. All internal case clearances shall be equal to discharge diameter so that large diameter solids and long length or stringy solids will pass through the pump with the greatest handling efficiency. The impeller shall be of 100% recessed design, with wear plate and shall be mounted in such a manner as to allow solids which enter the suction opening to leave the pump with minimal impeller contact. The solids or fluids being pumped shall not have to enter impeller in order to discharge. Impeller and wear plate shall conform to ASTM A-532 material and shall be 25% chrome iron (no exception) with a minimum of 55 rockwell hardness. The impeller shall have 7 vanes, and encompass a lip on back shroud to increase the efficiency of the pump and allow impeller to have a "flywheel" effect. The impeller shall be attached to the shaft by a stainless steel bolt, stainless steel washer, stainless steel key, and Essco "lock-tite" applied to insure that impeller bolt will not back out if unit is operated backwards. Impeller shall be fastened to keyed motor shaft by means of a stainless steel threaded cap screw and washer. Before installation the impeller and wear plate shall be broken down and inspected by the engineer for compliance with the specifications.

631.02.3 - Motor Case. Motor case and end brackets shall be cast iron. The motor shaft shall be one piece 416 stainless steel through both bearings with proper length to connect directly to pump impeller. Motor shall contain class b insulation with Class F materials rated for continuous duty in 40 degree C liquid. Motor shall be sized so the nameplate horsepower is the actual continuous brake horsepower output without considering motor service factor. Motors shall be explosion proof containing

Underwriter's Approved Label.

Thrust bearing and radial bearing shall be anti-friction type ball bearings. Motor leads shall be joined to motor housing by the use of an epoxy mold in the motor end bracket. All exposed hardware shall be stainless steel. Motor shall utilize standard Nema T-frame electrical components.

At the drive end the motor shall have a separate inner and outer seal with an oil filled chamber between the seals to provide complete protection for the motor windings. Each mechanical seal shall be constructed of the following parts: #420 stainless steel spring, ceramic cup, carbon washer and Buna "N" bellows. A moisture sensing probe within the oil filled chamber shall be provided and connected to an alarm system, as shown on the drawings, to warn of impending seal failure. Overload protection of the thermal trip type shall be provided. "Quick trip" heater and motor thermal circuit shall be wired in series with starter coil.

Motor shall conform to the current issue of national electrical code, Section 501-5, Para. (D) and Section 501-8, Para. (A). All pumps, motors, fittings, accessories and controls shall be 100% American Made.

631.02.4 - Guide Rail Assembly. Furnish each pump with slide away coupling that are designed such that the pumping units can be removed from the wet well without entering the well or disconnecting the piping. The slide away coupling shall consist of a cast iron foot mounted discharge elbow with integral cast mounting base plate, sliding pump adapter, rail guides, lifting yoke and upper rail supports. All metal faces where movement can occur will be non-sparking. The slide away coupling is designed to conform to Underwriters Laboratory for use in Class I, Division I, Group D hazardous locations.

The guide rail pipes shall be 2" furnished by the contractor. Two guide rail pipes per pump are required.

631.02.5 Access Frame and Cover Specification: Access frames and covers shall have a 1/4" thick one-piece, mill finish, extruded aluminum frame, incorporating a continuous concrete anchor. Door panels shall be 1/4" aluminum diamond plate, reinforced to withstand a live load of 300 lbs. Psf. Doors shall open to 90 degrees and automatically lock with stainless steel hold open arms with aluminum release handles. Doors shall close flush with the frame lifting handles, hinges, hinges and all fastening hardware shall be stainless steel. Unit shall lock with a non-corrosive locking bar. Unit shall be guaranteed against defects in material and/or workmanship for a period of 10 years. They shall be single leaf with openings sizes per contract drawings, as manufacturer by Halliday Products, Inc. or approved equal

631.02.06 DISCHARGE PIPING: All piping shall be ductile iron flanged joint pipe, ANSI A 21.51 and all joints and fittings shall be Ductile Iron ANSI A 21.10.

All Ductile Iron Pipe and Fittings shall be coated outside with a standard bituminous coating and lined inside with a 16 mil. coal tar epoxy coating.

631.02.07 GATE VALVE: Gate valves shall be in accordance with AWWA C-500 Standards, iron body, bronze mounted, double disc, parallel seat, non-rising stem, flanged ends, handwheel operated and complete with bolts, gaskets, and coatings.

631.02.08 CHECK VALVE: Check valves shall be in accordance with AWWA Standards, iron body, bronze mounted, flanged ends, lever and weight operation and complete with bolts, gaskets, and coatings.

631.02.09 WET WELL: Concrete for the wet well shall be furnished in accordance with the applicable requirements of reference ASTM L 76, ASTM C443 and ASTM C 478.

631.02.10 SECURITY FENCE: The security fence shall be constructed using the materials and details shown on the contract drawings.

631.02.11 BOLTS, WASHERS, AND FASTENERS: All bolts, washers, and fasteners shall be high strength stainless steel meeting the requirements as set forth in ASTM-A 325. All bolted connections shall have threads excluded from the shear plane.

631.02.12 FORCE MAINS: All force mains shall be PVC Fluid-Tite Intergral Bell plastic pipe for sewer and shall meet the requirements of 160 PSI, SDR 26 pressure pipe, and shall meet the standard specifications as outlined in ANSI/ASTM D 2241-78. All sections shall be tested under a hydrostatic pressure of 100 pounds per square inch and shall not show leakage exceeding 10 gallons per inch of diameter per mile of pipe per 24 hours when so tested.

All fittings to be mechanical joint cast or ductile iron. A green metallic tape with the word "SEWER" printed in bold letters and at a maximum of 3 feet spacing on the tape shall be secured to the top side of the force main.

631.02.13 AIR AND VACUUM SEWER VALVE:

The air and vacuum valve shall be able to automatically exhaust large quantities of air during filling of a pipeline and allows air to re-enter pipeline during the draining or when a negative pressure occurs. The inlet and outlet of the valve shall have the same cross-section area. The float shall be guided by a synthetic rubber seal. The float shall be of all

stainless steel construction and capable of withstanding maximum system surge pressure without failure. The body and cover shall be concentrically located and of ductile iron and the valve internal parts shall be of stainless steel with Buna-N® rubber seat.

The Air and Vacuum Valve shall be manufactured per ANSI/AWWA C512-04 Series 35WW 2" x 1" with optional backwash kit from Cla-Val Newport Beach, CA, U.S.A. or approved equal

Specifications Sizes

2", 3", 4" NPT

4", 6" 8" flanged ANSI

Class 125 lb.

Class 250 lb.

Pressure Rating

150 psi & 300 psi ratings

**NOTE: SPECIFY WHEN
OPERATING PRESSURE
BELOW 10 PSI**

Materials

Body and Cover:

Ductile Iron ASTM A536

65-45-12

Float:

Stainless Steel

Internal Parts:

Stainless Steel

Seal:

Buna-N® Rubber

The valve shall be mounted on a 4" cast iron fitting installed in the force main. Special consideration should be given so that the valve is stable. The valve and appurtenances shall be installed in a 36" diameter concrete manhole with a Dewes DF-25(7) J.S. or Vulcan V-1115 Frame and cover.

The air and vacuum sewer valve assembly includes all the items described above plus any additional items required to install the assembly and make it functional.

SECTION 16050

PART 1 - BASIC ELECTRICAL MATERIALS AND METHODS

1.01 Related Work

- A. Section 16060 - Grounding and Bonding
- B. Section 16900 - Process Instrumentation and Control

- 1.02 ELECTRICAL SPECIFICATIONS: The electric supply will be 120/240 volts, three phase, four wire, 60 Hertz. The Contractor shall contact the power company prior to bidding and include in his bid the cost of labor and material necessary to supply the plant with electricity, including any cost which may be assessed by the power company for installation of power company furnished material. The Contractor shall coordinate all aspects of the construction concerning the electric service with the power company. The Approval Drawings shall include all details of the power company electric service and all associated equipment (to include all pole types and locations, switches, fuses, wire sizes and types, etc.) anywhere on the plant property.
- 1.03 TEMPORARY ELECTRIC SERVICE: The Temporary Electric Service for construction power shall be furnished, installed, and removed by the electrical contractor. Also, Contractor, shall make all necessary arrangements with the power company for metering and billing and provide for these charges and cost in his bid.
- 1.04 TESTING AND INSPECTIONS: Contractor shall assist in making periodic inspections or tests as required by the Engineer. When required, Contractor shall provide the assistance of foreman and qualified craftsmen for reasonable duration of each test, etc. Cooperate with other Contractors in preventing premature operation of equipment like water process equipment, etc., which should be first run in presence of personnel responsible for each item.
- After wiring is completed, the Contractor shall test for shorts and open circuits, intentional and unintentional grounds. All shorts, open circuits, and unintentional grounds shall be corrected.
- 1.05 GUARANTEE: Workmanship and materials shall be guaranteed for period of one year from date of official acceptance of contract. Be responsible for any adjustments, replacements and corrections necessary to restore project to first-class condition if deficiency is due to faulty workmanship or materials.
- 1.06 CONDUIT SYSTEMS: Use galvanized or sheradized steel conduit in damp locations, exterior walls, exposed out of doors or when subject to mechanical

damage after installation. Underground runs, use PVC, schedule 80 incased in concrete per NEMA standards and buried at required depth per NEMA standards. Provide electrical line red warning tape buried six (6) inches above conduit run. Protect conduits against entry of debris; keep ends capped during construction; clear or replace obstructed conduits.

Size and install conduits so that conductors may be installed without damage or excessive strain, using NEC as a minimum standard. For rigid conduit use double lock nut and bushings. For conduits larger than 1", use grounding type insulation bushing. Entire conduit system shall provide a dependable path to ground. EMT fittings shall be watertight type, T&B 5100 series. Crimped or set screw types are not acceptable.

Ream ends after threading, make bends with an approved bending tool. Replace deformed bends or off-sets. Avoid hot water pipes, stay at least 3" from covering of hot pipes except as crossing, then at least 1".

- 1.07 PULL BOXES AND JUNCTION BOXES: Pull boxes shall be code gauge and size galvanized steel and shall be installed where accessible and in location shown on the drawings or where required to facilitate the easy pulling of wires. Boxes shall be sized properly for the conduits and wires entering them. In outdoor and process areas use weatherproof and corrosion resistant boxes.
- 1.08 OUTLET BOXES: On exposed conduit in process areas, use Crouse-Hinds No. FS or FD or other galvanized steel types. All boxes galvanized, or cadmium plated, or better.
- 1.09 CONDUCTORS AND GENERAL WIRING METHODS: Type THW 600-volt copper wire for general use and types THHN 600-volt copper for High Ambient Temperature; where Contractor sizes conduit based on conductor required, basis is type THW. Approved manufacturers, Triangle, General Cable, Collyer, National Electric Products, or approved equal. Size, type and trade name stamped permanently at regular intervals on all conductors. All wire shall be color coded.

Install wire in conduit after all work which may cause damage is completed. Powdered talc or other approved compound may be used as lubricant where necessary.

Make joints and splices in conductors with approved insulating type compression fittings, T&B, Sta-kon, or Buchanan splice caps. Wire-nuts are not acceptable.

1.10 GROUNDING AND BONDING REQUIREMENTS

In order to provide a safe and reliable system, all structures, piping, equipment and electrical services involved must be properly grounded and bonded to a properly sized and installed grounding electrode system.

All work will comply with every facet of the National Electric Code Article 250, current edition. Particular attention must be given to sections 250.56 and 250.58.

The article 250 requirement for a ground resistance of 25 ohms or less shall be considered as the minimum and a resistance of 4 ohms or less shall be the goal. This resistance will be measured with equipment using a three point resistance measurement and "fall of potential" system.

All motor control centers and control panels shall have as a minimum, a ground ring near the structure or building consisting of #2/0 bare copper and 10 foot long by 3/4" diameter copper clad ground rods. There will be at least three (3) ground rods spaced no more than twelve (12) feet apart to make a grounding "ring". All connections will be exothermic (Cadweld) performed by qualified personnel. All devices located near the structure or building shall be bonded to the ground ring.

Other structures will have a grounding system appropriate for the location per the National Electric Code article 250.

Conduit work, motors, panel boards and electrical equipment are to be effectively and permanently grounded. Feeder conduits shall provide a good path to system ground.

The grounding screw on all grounding type receptacles shall be securely grounded to the outlet box with lug and screw, or use self-grounding types.

Verify electrical continuity of all conduit runs and correct any discrepancies.

The Contractor shall be responsible for determining the extent of grounding and bonding requirements for equipment located at the site(s) covered under the contract(s) as listed herein. The Contractor shall provide for these charges, and cost in his bid.

- 1.11 EXCAVATION AND BACKFILLING: Excavate trenches for underground conduit or cable to required depth and width. After conduit or cable has been installed, inspected, and approved, backfill trench with earth free of trash, rock, brick and debris, and compact as required. Under slab, follow compaction rules for general work on this project. Underground workmanship applies under slab; depth can be reduced, but provide full and complete encasement. Bond conduit to any membrane passed through.
- 1.12 CLEANING: As required, clean all equipment or exposed material provided or

installed under this section. Protect from any normal use of paint, mortar, etc.

- 1.13 **WORKMANSHIP:** All work shall be done in a thorough, substantial, and workmanlike manner by competent workmen. Applicable rules of National Electric Code apply as minimum standard for this contract but do not replace or reduce any specific requirement herein.
- 1.14 **INTERFERENCES:** The drawings are generally diagrammatic. Cooperate with other trades so that interferences of conduit, equipment, piping, etc., will be avoided. If interference develops, refer promptly to Engineer for decision.

END OF SECTION

SECTION 16060

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This section specifies the general grounding and bonding requirements for electrical equipment and operations to provide a low impedance path for possible ground fault currents.
- B. "Grounding electrode system" refers to all electrodes required by NEC, as well as made, supplementary, and lightning protection system grounding electrodes. The terms "connect" and "bond" are used interchangeably in this specification and have the same meaning.

1.02 RELATED WORK

- C. Section 16050 – Electrical Material and Methods
- D. Section 16900 – Process Instrumentation and Control

1.03 SUBMITTALS

- A. Shop Drawings:
 - 1. Clearly present enough information to determine compliance with drawings and specifications.
 - 2. Include the location of system grounding electrode connections and the routing of aboveground and underground grounding electrode conductors.
- B. Test Reports: Provide certified test reports of ground resistance.
- C. Certifications: Two weeks prior to final inspection, submit four copies of the following to the Project Engineer:
 - 1. Certification that the materials and installation are in accordance with the drawings and specifications.
 - 2. Certification by the Contractor that the complete installation has been properly installed and tested.

1.05 APPLICABLE PUBLICATIONS

Publications listed below (including amendments, addenda, revisions, supplements, and errata) form a part of this specification to the extent referenced. Publications are referenced in the text by designation only.

- A. American Society for Testing and Materials (ASTM):
 - B1-07.....Standard Specification for Hard-Drawn Copper Wire
 - B3-07.....Standard Specification for Soft or Annealed Copper Wire
 - B8-04.....Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
- B. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - 81-1983.....IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System
 - C2-07.....National Electrical Safety Code
- C. National Fire Protection Association (NFPA):
 - 70-08.....National Electrical Code (NEC)
 - 99-2005.....Health Care Facilities
- D. Underwriters Laboratories, Inc. (UL):
 - 44-05.....Thermoset-Insulated Wires and Cables
 - 83-08.....Thermoplastic-Insulated Wires and Cables
 - 467-07.....Grounding and Bonding Equipment
 - 486A-486B-03.....Wire Connectors

PART 2 – PRODUCTS

2.01 GROUNDING AND BONDING CONDUCTORS

- A. Equipment grounding conductors shall be UL 44 or UL 83 insulated stranded copper, except that sizes No. 10 AWG [6 mm²] and smaller shall be solid copper. Insulation color shall be continuous green for all equipment grounding conductors, except that wire sizes No. 4 AWG [25 mm²] and larger shall be identified per NEC.
- B. Bonding conductors shall be ASTM B8 bare stranded copper, except that sizes No. 10 AWG [6 mm²] and smaller shall be ASTM B1 solid bare copper wire.
- C. Conductor sizes shall not be less than shown on the drawings, or not less than required by the NEC, whichever is greater.
- D. Isolated Power Systems (if applicable): Type XHHW-2 insulation with a dielectric constant of 3.5 or less.

2.02 GROUND RODS

- A. Steel or copper clad steel, 0.75 in [19 mm] diameter by 10 ft [30 M] long, conforming to UL 467.
- B. Quantity of rods shall be as required to obtain the specified ground resistance, as shown on the drawings.

2.03 CONCRETE ENCASED ELECTRODE

Concrete encased electrode shall be No. 4 AWG bare copper wire, installed per NEC.

2.04 GROUND CONNECTIONS

- A. Below Grade: Exothermic-welded type connectors.
- B. Above Grade:
 - 1. Bonding Jumpers: Compression-type connectors, using zinc-plated fasteners and external tooth lockwashers.
 - 2. Connection to Building Steel: Exothermic-welded type connectors.
 - 3. Ground Busbars: Two-hole compression type lugs, using tin-plated copper or copper alloy bolts and nuts.
 - 4. Rack and Cabinet Ground Bars: One-hole compression-type lugs, using zinc-plated or copper alloy fasteners.

2.05 EQUIPMENT RACK AND CABINET GROUND BARS

Provide solid copper ground bars designed for mounting on the framework of open or cabinet-enclosed equipment racks with minimum dimensions of 0.375 in [4 mm] thick x 0.75 in [19 mm] wide.

2.06 GROUND TERMINAL BLOCKS

At any equipment mounting location (e.g., backboards and hinged cover enclosures) where rack-type ground bars cannot be mounted, provide screw lug-type terminal blocks.

2.07 GROUNDING BUS

Pre-drilled rectangular copper bar with stand-off insulators, minimum 0.25 in [6.3 mm] thick x 4 in [100 mm] high in cross-section, length as shown on drawings, with 0.281 in [7.1 mm] holes spaced 1.125 in [28 mm] apart.

PART 3 – EXECUTION

3.01 GENERAL

- A. Ground in accordance with the NEC, as shown on drawings, and as specified herein.
- B. System Grounding:
 - 1. Secondary service neutrals: Ground at the supply side of the secondary disconnecting means and at the related transformers.

2. Separately derived systems (transformers downstream from the service entrance): Ground the secondary neutral.
- C. Equipment Grounding: Metallic structures, including ductwork and building steel, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, and other conductive items in close proximity with electrical circuits, shall be bonded and grounded.

3.02 INACCESSIBLE GROUNDING CONNECTIONS

Make grounding connections, which are normally buried or otherwise inaccessible (except connections for which access for periodic testing is required), by exothermic weld.

3.03 SECONDARY VOLTAGE EQUIPMENT AND CIRCUITS

- A. Main Bonding Jumper: Bond the secondary service neutral to the ground bus in the service equipment.
- B. Metallic Piping, Building Steel, and Supplemental Electrode(s):
 1. Provide a grounding electrode conductor sized per NEC between the service equipment ground bus and all metallic water pipe systems, building steel, and supplemental or made electrodes. Provide jumper insulating joints in the metallic piping. All connections to electrodes shall be made with fittings that conform to UL 467.
 2. Provide a supplemental ground electrode and bond to the grounding electrode system.
- C. Service Disconnect (Separate Individual Enclosure): Provide a ground bar bolted to the enclosure with lugs for connecting the various grounding conductors.
- D. Switchgear, Switchboards, Panelboards, Motor Control Centers and Panelboards, Engine-Generators, and Automatic Transfer Switches:
 1. Connect the various feeder equipment grounding conductors to the ground bus in the enclosure with suitable pressure connectors.
 2. For service entrance equipment, connect the grounding electrode conductor to the ground bus.
 3. Provide ground bars, bolted to the housing, with sufficient lugs to terminate the equipment grounding conductors.
 4. Connect metallic conduits that terminate without mechanical connection to the housing, by grounding bushings and grounding conductor to the equipment ground bus.
- E. Transformers:
 1. Exterior: Exterior transformers supplying interior service equipment shall have the neutral grounded at the transformer secondary. Provide a grounding electrode at the transformer.
 2. Separately derived systems (transformers downstream from service equipment): Ground the secondary neutral at the transformer. Provide a grounding electrode conductor from the transformer to

the nearest component of the grounding electrode system or to the ground bar at the service equipment.

3.04 RACEWAY

- A. Conduit Systems:
 - 1. Ground all metallic conduit systems. All metallic conduit systems shall contain an equipment grounding conductor.
 - 2. Non-metallic conduit systems, except non-metallic feeder conduits that carry a grounded conductor from exterior transformers to interior or building-mounted service entrance equipment, shall contain an equipment grounding conductor.
 - 3. Conduit that only contains a grounding conductor, and is provided for its mechanical protection, shall be bonded to that conductor at the entrance and exit from the conduit.
 - 4. Metallic conduits which terminate without mechanical connection to electrical equipment housing by means of locknut and bushings or adapters, shall be provided with grounding bushings. Connect bushings with a bare grounding conductor to the equipment ground bus.
- B. Feeders and Branch Circuits: Install equipment grounding conductors with all feeders and power and lighting branch circuits.
- C. Boxes, Cabinets, Enclosures, and Panelboards:
 - 1. Bond the equipment grounding conductor to each pullbox, junction box, outlet box, device box, cabinets, and other enclosures through which the conductor passes (except for special grounding systems for intensive care units and other critical units shown).
 - 2. Provide lugs in each box and enclosure for equipment grounding conductor termination.
- D. Wireway Systems:
 - 1. Bond the metallic structures of wireway to provide 100% electrical continuity throughout the wireway system, by connecting a No. 6 AWG [16 mm²] bonding jumper at all intermediate metallic enclosures and across all section junctions.
 - 2. Install insulated No. 6 AWG [16 mm²] bonding jumpers between the wireway system, bonded as required above, and the closest building ground at each end and approximately every 50 ft [16 M].
 - 3. Use insulated No. 6 AWG [16 mm²] bonding jumpers to ground or bond metallic wireway at each end for all intermediate metallic enclosures and across all section junctions.
 - 4. Use insulated No. 6 AWG [16 mm²] bonding jumpers to ground cable tray to column-mounted building ground plates (pads) at each end and approximately every 49 ft [15 M].
- E. Receptacles shall not be grounded through their mounting screws. Ground receptacles with a jumper from the receptacle green ground

- terminal to the device box ground screw and a jumper to the branch circuit equipment grounding conductor.
- F. Ground lighting fixtures to the equipment grounding conductor of the wiring system when the green ground is provided; otherwise, ground the fixtures through the conduit systems. Fixtures connected with flexible conduit shall have a green ground wire included with the power wires from the fixture through the flexible conduit to the first outlet box.
 - G. Fixed electrical appliances and equipment shall be provided with a ground lug for termination of the equipment grounding conductor.
 - H. Raised Floors: Provide bonding of all raised floor components (if applicable).

3.05 OUTDOOR METALLIC FENCES AROUND ELECTRICAL EQUIPMENT

Fences shall be grounded with a ground rod at each fixed gate post and at each corner post. Drive ground rods until the top is 12 in [300 mm] below grade. Attach a No. 4 AWG [25 mm²] copper conductor by exothermic weld to the ground rods, and extend underground to the immediate vicinity of fence post. Lace the conductor vertically into 12 in [300 mm] of fence mesh and fasten by two approved bronze compression fittings, one to bond the wire to post and the other to bond the wire to fence. Each gate section shall be bonded to its gatepost by a 0.375 in x 1 in [3 mm x 25 mm] flexible, braided copper strap and ground post clamps. Clamps shall be of the anti-electrolysis type.

3.06 CORROSION INHIBITORS

When making ground and ground bonding connections, apply a corrosion inhibitor to all contact surfaces. Use corrosion inhibitor appropriate for protecting a connection between the metals used.

3.07 CONDUCTIVE PIPING

- A. Bond all conductive piping systems, interior and exterior, to the grounding electrode system. Bonding connections shall be made as close as practical to the equipment ground bus.
- B. In operating rooms and at intensive care and coronary care type beds, bond the gases and suction piping at the outlets directly to the room or patient ground bus.

3.08 LIGHTNING PROTECTION SYSTEM

Bond the lightning protection system to the electrical grounding electrode system.

3.09 ELECTRICAL ROOM GROUNDING

Building Earth Ground Busbars: Provide ground busbar and mounting hardware at each electrical room and connect to pigtail extensions of the building grounding ring.

3.10 EXTERIOR LIGHT POLES

Provide 20 ft [6.1 M] of No. 4 bare copper coiled at bottom of pole base excavation prior to pour, plus additional unspliced length in and above foundation as required to reach pole ground stud.

3.11 GROUND RESISTANCE

- A. Grounding system resistance to ground of 25 ohms or less shall be considered as the **minimum** and a resistance of 5 ohms or less shall be the goal. Make any modifications or additions to the grounding electrode system necessary for compliance without additional cost to the Customer. Final tests shall ensure that this requirement is met.
- B. Resistance of the grounding electrode system shall be measured using a four-terminal fall-of-potential method as defined in IEEE 81. Ground resistance measurements shall be made before the electrical distribution system is energized and shall be made in normally dry conditions not fewer than 48 hours after the last rainfall. Resistance measurements of separate grounding electrode systems shall be made before the systems are bonded together below grade. The combined resistance of separate systems may be used to meet the required resistance, but the specified number of electrodes must still be provided.
- C. Services at power company interface points shall comply with the power company ground resistance requirements.
- D. Below-grade connections shall be visually inspected by the Project Engineer prior to backfilling. The Contractor shall notify the Project Engineer 24 hours before the connections are ready for inspection.

3.12 GROUND ROD INSTALLATION

- A. For outdoor installations, drive each rod vertically in the earth, until top of rod is 24 in [609 mm] below final grade.
- B. For indoor installations, leave 4 in [100 mm] of rod exposed.
- C. Where permanently concealed ground connections are required, make the connections by the exothermic process, to form solid metal joints. Make accessible ground connections with mechanical pressure-type ground connectors.
- D. Where rock prevents the driving of vertical ground rods, install angled ground rods or grounding electrodes in horizontal trenches to achieve the specified resistance.

END OF SECTION

SECTION 16900

PROCESS INSTRUMENTATION AND CONTROL

PART 1 – GENERAL

1.01 WORK INCLUDED

The work covered under this section of the specifications includes the furnishing and installing of all instrumentation and control hereinafter specified to perform the intended function.

1.02 RELATED WORK

- E. Section 16050 – Electrical Material and Methods
- F. Section 16060 – Grounding and Bonding

PART 2 – PRODUCTS

2.01 SYSTEM SUPPLIER

All instrumentation and control systems equipment shall be furnished by a System Supplier. The System Supplier shall provide and be responsible for the proper operation of all Process Instrumentation and Controls and Control Panels. The System Supplier shall perform in house submittal drawings and assembly of products. Subcontracting submittal drawings and equipment assembly will not be permitted.

Substitutions of functions or equipment specified will not be acceptable.

The entire system shall be warranted for one year from date of substantial completion.

The Contractor shall assign full responsibility for the function operation of all new instrumentation and control systems to a System Supplier. This System Supplier shall be responsible for all coordination necessary in order to select, to furnish, to supervise installation and connections, to calibrate, and to place into operation all instrumentation and controls along with all other equipment and accessories as specified herein. The System Supplier shall be a licensed electrical contractor in the state of Mississippi.

The System Supplier shall be one of established favorable reputation who has designed and produced similar systems and components for a period of at least (10) ten years.

It shall be required of the System Supplier to execute and submit a guarantee to assume full responsibility as defined in Section 2.01, paragraph 'A' above. It is the duty of the Contractor to include this guarantee with his Bidding Documents.

Only the guarantee of the System Supplier whose name the Contractor has inserted in his Bidding Documents is required. Failure by a System Supplier to provide a written guarantee with his proposal shall be deemed by the Contractor as "NO BID" and that System Supplier will not be acceptable. The written guarantee shall be on the named System Supplier's letterhead and shall be signed by a responsible representative who will be primarily involved in the fulfillment of this guarantee. The written guarantee shall be stated as follows:

"... (Name of Single Source System Supplier)...guarantees that the proposal offered provides for complete compliance with all requirements of this section of the project specifications without exceptions to these specifications.

Full responsibility will be placed upon... (Name of Single Source System Supplier)...for all coordination necessary to select, to furnish, to supervise installation and connections, to calibrate, and to place into operation Process Instrumentation and Controls, Control Panels, and all other equipment and accessories needed to provide a complete operating system to comply with requirements of this section of the project specifications.

... (Name of Single Source System Supplier)... guarantees to provide all submittal drawings, instruction manuals, and qualified personnel for specified field services and training, all as defined within this section of the project specifications."

... (Name of Single Source System Supplier)... is a licensed electrical contractor in the state of Mississippi; Certificate of Responsibility No. _____, name of qualifying party _____;

Guarantee on system function and equipment shall be one (1) year from date of substantial completion or partial acceptance.

2.02 SUBMITTAL DRAWINGS

- A. Descriptive literature and drawings for equipment and systems being furnished under this section shall be included in two submittals as a maximum. If two submittals are made, the first shall include all primary devices, transmitters, sensors, and field mounted equipment. The second submittal will include the balance of the submittal required. The submittal shall include as a minimum, equipment specifications,

dimensional drawings, flow and other calculations, schematic drawings of each and every system within the complete offering, and such other information requested by the Engineer or considered necessary to the proper installation of the equipment. Furnish submittals in a Bound Booklet Form 8.5" X 11". No sheets shall be larger than 8.5" X 11". Foldout larger sheets will not be acceptable. This submittal shall include coordinated information and drawings for all items that the Single Source System Supplier is required to furnish under this section of the specifications, all in one integrated and coordinated manual. Each item of a submittal shall carry the appropriate title and be indexed against the appropriate specification item.

- B. A quantity of four (4) sets of submittals shall be furnished for the Engineer's approval.

2.03 INSTRUCTION MANUALS

Prior to 65% of the value of job completion, System Supplier shall furnish two (2) copies to the Engineer of all descriptive matter and complete system operation instruction manuals in separate indexed binders coordinated with the equipment that is furnished and installed for approval. System Supplier shall incorporate Engineer's comments and resubmit for approval within thirty (30) days of receipt of Engineer's comments. Once final approval is obtained, System Supplier shall furnish two (2) to the Engineer.

2.04 RELATED SYSTEM COMPONENTS

The attention of the System Supplier is called to sections concerned with electrical work, chemical feeders, valves, piping, etc., and such other devices not specified under this section, but related to it.

PART 3 - EXECUTION

3.01 ENGINEERING SUPERVISION

- C. The services of a qualified representative of the selected Single Source System Supplier shall be provided to inspect the completed installation, suggest all adjustments necessary to place the system in proper operation, and instruct operating personnel in the care and operation of the equipment furnished. A minimum of one (1) day and one (1) trip start-up service and training operating personnel shall be included. The services shall be furnished by the Contractor as a part of the work included under this section of the specifications.
- D. The System Supplier shall show satisfactory evidence that he maintains, a fully equipped factory organization capable of furnishing adequate service

for the equipment furnished, included replacement parts. Suppliers employing outside organizations for "ON CALL" service shall not be considered.

3.02 GENERAL INSTALLATION

- E. Installation of instrumentation and controls shall be in strict compliance with the manufacturer's instruction. The locations of these items as shown on the Contract Drawings are approximate only. Exact locations shall be as approved by the Engineer during construction. It is the duty of the Contractor to obtain, in the field, all relevant information required for proper placement of instrumentation and controls. In the case of interference with other work, proceed as instructed by the Engineer and provide all materials and labor required to prevent construction delays.
- F. Execution of the installation shall be in full accordance with codes and local rulings. The Contractor shall be responsible for any expenses that are a result of work performed contrary to said codes and regulations.
- G. The System Supplier shall coordinate with the Contractor the installation, the location of process equipment, and connections of process equipment to related equipment panels, subject to the Engineer's approval. The equipment being furnished with electrical controls or instrumentation must be submitted to the System Supplier for approval and coordination with all other control and instrumentation on this project. This engineer will not approve any equipment submittal until this coordination has been accomplished.

3.03 SPARE PARTS

- H. Provide the following spare parts packaged for long-term storage and delivered to the owner.

<u>QTY.</u>	<u>MODEL NO.</u>	<u>DESCRIPTION</u>
1	DC	Duplex Pump Controller
1	MM	Motor Current Monitor
1	SP	Control Voltage Surge Protector
1	AP	Antenna Protector
1	UPS	Uninterruptible Power Supply

- I. The System Supplier shall maintain an inventory at his facility of at least one (1) part of each type furnished on this project. These parts shall be available for delivery to the owner in a maximum of twenty-four (24) hours.

3.04 DELIVERY AND HANDLING

After delivery to the jobsite, the Contractor shall store the control panel off of the ground in a dry location until such time as it is mounted and supplied with electrical service. The contractor shall also insure that the pump power and control cords, as well as control floats, are protected from submergence until they are properly installed and sealed.

3.05 CONTROL PANEL STAND (when required)

Each control panel stand shall be fabricated per the detail indicated in the plans. Control panel stand legs shall be cemented into the ground a minimum of three feet (3') deep. The control panel shall be bolted at all four corners to the control panel stand with stainless steel hardware. Control panels shall be installed following manufacturer's instructions properly leveled. When installed, the bottom of the control panel shall be approximately four feet (4') above finished grade elevation.

PART 4 - CONTROL PANEL SPECIFICATIONS

4.01 GENERAL

- A. Enclosure shall be constructed of a minimum 16 gauge, galvanized steel with stainless steel, quarter turn, quick-release latching mechanisms and a padlocking hasp. Enclosure shall be factory painted with white polyester powder paint inside and out over pretreated surfaces. The enclosure shall be rated NEMA Type 3R and manufactured by Hoffman, Electromate or approved equal. Enclosure backplate shall be a minimum of 12-gauge steel, finished with white polyester powder paint or a conductive, corrosion-resistant coating.
- B. All power and control wires shall be stranded copper type MTW. All wiring shall be in covered plastic wireway.
- C. All points necessary for external connection in the controller, whether power or control, shall be wired to a terminal strip located at the top or bottom of the enclosure as directed by the engineer. The terminal strip shall be permanently marked with the same designation as the wire connected to it.
- D. All power and control wires shall be marked at both ends using self-adhering wire markers. No two wires having different functions within the control panel shall have the same markings.
- E. All circuit breakers, starters, and other control devices mounted within the controller panel shall be labeled for identification both within the panel and on the wiring schematic with corresponding designations.

- F. Control power shall be 120 volts and shall be protected by a correctly sized circuit breaker. If required, provide a properly sized control power transformer with primary over current protection.
- G. Each starter shall be provided with overload protection in all three phases and each individual starter shall have phase failure protection.
- H. All selector switches, pilot lights and control devices shall be visible and operable from the Controller exterior door or an interior deadfront panel when required. The deadfront panel shall be constructed of anodized aluminum and shall have a continuous aluminum hinge. An anodized aluminum deadfront shall be utilized when the Controller environment is not conducive to exposed controls or as specified on drawings.
- I. All approval drawings shall be prepared per J.I.C. standards for engineers review prior to any fabrication of control equipment. The Controller shall be produced by a UL 508 listed shop. Proof of label availability shall be submitted with above drawing.
- J. The controller manufacturer shall provide a written warranty with approval drawings covering all Control materials and parts furnished for a period ending one year after final acceptance of the project. This warranty shall cover all material replacement, all labor, and all travel expenses.
- K. The controller manufacturer shall show satisfactory evidence that he maintains a fully equipped factory organization capable of furnishing adequate service for the equipment furnished, including replacement parts within a 150 mile radius of the job site. Suppliers employing outside organizations for "ON CALL" service shall not be considered.
- L. The quality establishing brand for the control panel(s) shall be that as manufactured by Control Systems, Inc. of Jackson, MS.

4.02 DUPLEX PUMP STATION CONTROL PANEL

- A. SERVICE ENTRANCE: The control panel shall be designed for 120/240-volt, three-phase, four-wire power. The control panel shall be rated NEMA 3R.
- B. MAIN BREAKER: Provide a properly sized Main Breaker. In addition, provide a through the door operator mounted on the interior deadfront. The operator shall prevent the deadfront from being opened while the breaker is in the "ON" position.
- C. POWER DISTRIBUTION BLOCKS: Provide properly sized Power

Distribution Block(s) (PDB), as required for the control panel. Power distribution blocks shall be manufactured by Marathon, Square D, or approved equal.

- D. SERVICE ENTRANCE SURGE PROTECTION DEVICE: Provide a service entrance rated Type 2, AC power distribution Surge Protection Device (SPD), per Component Specifications, designed to protect all types of loads fed from distribution panels, branch panels and/or individual equipment panels. Units shall be UL listed and shall bear a UL label. Surge Protection Device shall be rated for 160kA per phase and 80kA per mode.
- E. PHASE/POWER MONITOR: Provide a service entrance Power Monitor (PM), per Component Specifications. During power monitor failure detection, no three phase motors shall be allowed to operate.
- F. LIFT STATION PUMPS NO.1 AND NO.2: Provide a combination circuit breaker and Solid State Starter (SSS), per Component Specifications, for each pump. The Solid State Starter shall come complete with a shorting contactor, overload protection, and shall have a programmable soft start and soft stop feature. Starter shall be programmed to soft start and soft stop the motor. Acceptable soft start starter manufactures shall be Allen Bradley model SMC-Flex, Siemens model Sirius, or approved equal. Solid state starter shall be sized for the type required by the servicing power company and for the actual motor horsepower. The actual horsepower may differ than that indicated on drawing. In addition, provide the following additional equipment and controls:
 - 1. Provide a Duplex Pump Controller with built-in remote telemetry unit and lift station analyzer (DC1-2), per Component Specifications. The duplex pump controller shall include all auxiliary modules required to transmit all pump input/output data signals to the existing City of Hattiesburg office site CTU and SCADA system computer. In the automatic mode, the Duplex Pump Controller shall receive stop and start commands based on the level in the pump station wet well as sensed by the float switches (F), as described below in Part 5.
 - 2. Provide a float switch input indicator and test module with improper input sequence indicator and controls (FT1-2), per Component Specifications.
 - 3. Provide Motor Monitors (MM-1 and MM-2) complete with properly sized Current Transformer, both per Component Specifications. The Motor Monitor shall provide a positive run signal, monitor motor running current, and indicate motor running time and motor full load running amperes. In addition, the motor monitor shall

come complete with high and low amperes set points for the pump. The pump motor current shall be transferred to the CTU and displayed on the SCADA system computer via the duplex pump controller, as described above.

- G. **DUPLEX RECEPTACLE:** Provide a 120V, 20 amp, duplex receptacle mounted on the backplate of the controller enclosure for programming and diagnostic equipment use. Receptacle shall come complete with handy box.
- H. **POWER SUPPLY:** Provide a Power Supply (DPS), per component specifications. The power supply shall provide 13.5V DC for the Radio Modem Transceiver and Current Monitor.
- I. **UNINTERRUPTIBLE POWER SUPPLY:** Provide an Uninterruptible Power Supply (UPS), per Component Specifications. The unit shall be a 12V DC battery charger with 24V DC auxiliary power output option if required. In Addition, provide one (1) 12V DC 12 Ah Backup Battery (BAT) for the system in the event of a power failure.
- J. **RADIO ANTENNA:** Provide a Radio Antenna (ANT), per Component Specifications. Radio Antenna shall be Omni or Yagi type unit with gain as required for signal strength. The antenna shall be connected to the radio (RMT), with RG/8U low loss coaxial cable. In addition, a coaxial type Antenna Protector (AP), also per Component Specifications, shall be provided for connection of coaxial cable to the control panel enclosure.
- K. **RADIO MODEM TRANSCEIVER:** Provide a Radio Modem Transceiver (RMT), per Component Specifications and meeting the requirement of FCC Part 90. The RMT shall include built-in radio diagnostics capable of reporting specific unit conditions including programming, link testing, temperature, supply voltage, and Received Signal Strength Intensity (RSSI). Diagnostic data shall be capable of communication online with each transmission with no interruption in the application and with minimum overhead. All electrical connections to the RMT shall be plug-in type for ease of repair.
- L. **BRANCH FEEDER BREAKERS:** Provide the following 120-volt single pole circuit breakers.
 - 1. 20 Amp, 1 pole for Control Power
 - 2. 20 Amp, 1 pole for GFI Weatherproof Duplex Receptacle
- A. **CONTROL POWER SURGE PROTECTOR:** Provide an in-line (series) 120 volt, single-phase, 20A continuous power Surge Protection Device (SPD),

- per Component Specifications, designed to protect all of the loads fed from the control power circuit.
- B. **GROUND FAULT INTERRUPTER RECEPTACLE:** Provide a 120 Volt, 15 amp, Weatherproof Duplex GFCI Receptacle mounted on the side of enclosure for electrical hand tool use. Receptacle shall come complete with a weatherproof cover. Cover shall be UL listed for wet locations, with cover closed, and shall be constructed of tough plastic that is resistant to high impact and sunlight. In addition, the cover shall be non-corrosive, non-conductive and protect against rain, snow and ice.
 - C. **COMMON ALARM LIGHT:** Provide a weatherproof exterior Alarm Light (AL), per Component Specifications, with red Lexan lens and mounted on the side of building where shown on plans or as directed by the project engineer. The alarm light shall burn dim and steady during normal conditions to indicate electrical power "ON" and lamp good. During any alarm condition, the alarm light shall flash brightly.

PART 5 – FIELD INSTRUMENTATION, CONTROLS, AND MODIFICATIONS

- 5.01 **CENTRAL COMPUTER MODIFICATIONS:** Upon installation of radio telemetry and current monitoring equipment, necessary modifications shall be made to the existing central computer and associated equipment to incorporate all existing and new data to be transmitted from the Dogwood Drive Duplex Pump Station. All data installed on this project shall be incorporated into the existing City of Hattiesburg central telemetry unit (CTU) and SCADA system to provide the operator with graphical interface, monitoring and control as well as provide records of appropriate system transactions. The control system supplier shall be responsible for coordinating all work with the City of Hattiesburg and the project Engineer.
- 5.02 Provide a float control system for the pumping station to operate the pumps. Provide High Level, Lead Start, Lag Start, All Stop Float Switches (F), and Low Water Alarm per Component Specifications, mounted in wetwell. Float switches shall be set at operating levels per Project Engineers direction. The float switch shall be a direct acting switch and contain a single pole mercury switch, which actuates when the longitudinal axis of the float is horizontal and deactuates when the liquid level falls 1" below the actuation elevation. The float shall have a chemical resistant polypropylene casing with a firmly bonded electrical cable protruding. One end of the cable shall be permanently connected to the enclosed mercury switch and the entire assembly shall be capsulated to form a completely watertight and impact resistance unit. Provide the following float switches and control points:
- A. High Level Alarm
 - B. Lag Start
 - C. Lead Start

- D. All Stop
- E. Low Water Alarm

PART 6 – RTU SOFTWARE, PROGRAMMING AND LICENSING

- 6.01 COMMUNICATIONS PROTOCOL:** All CTU/RTU=s shall include driver software for industry standard protocols including MODBUS and Bricknet. The Resource Management Facilities communications system shall be based upon an open, nonproprietary protocol. The protocol shall support “store and forward” as well as “peer-to-peer” communications. All protocols must be submitted with complete documentation including but not limited to all data structures and algorithms (such as CRC calculations) required to interface future equipment to the telemetry network. Documentation that the ENGINEER deems insufficient shall disqualify the protocol. The ENGINEER and OWNER reserve the right to disqualify the facilities supplier=s bid based upon a disqualified protocol. **No proprietary closed communication protocols shall be accepted.**
- 6.02 PROGRAMMING LANGUAGE SOFTWARE:** The CTU/RTU programming language software shall be an industry standard so that future expansion and improvements may be economically accommodated. The programming language shall be Microsoft C/C++. Programming shall provide the specific resource management functions and capabilities for the CTU/RTU modules.
- 6.03 LICENSING:** An application must be submitted to the Federal Communications Commission (FCC) in the name of the system owner and a license issued for the operation of VHF band radio data frequency. All application fees and processing fees for this purpose shall be the responsibility of the contractor.
- 6.04 RADIO PATH SURVEY:** Provide a radio path survey to measure radio signal strength and to properly design transceivers, antennas, masts, and any other equipment necessary for data radio communication between each CTU/RTU site. Contractor shall provide radio repeaters as necessary for this purpose. The Owner=s existing facilities will be made available for installation of this equipment including 120V AC power if already existing. To assure reliable radio data communication, the minimum acceptable signal strength between RMT sites necessary for communication links shall be 85 dB. Provide a Radio Path Survey Report to the (Engineer including all measured field data, survey equipment used, site location including latitude and longitude of all sites, and recommended radio equipment and antennas necessary to achieve the required radio signal strength. This report shall be provided to the engineer for review prior to the installation of any radio equipment. Acceptance of the Radio Path Survey Report shall in no way absolve the Contractor from the responsibility for provision of reliable radio communication system required. Apply for, secure, and provide FCC license(s) in the owner=s name for VHF radio frequency as required for data radio communication. All application fees and processing fees for this purpose shall be the responsibility of the Contractor.

PART 7 – COMPONENT SPECIFICATIONS

7.01 SERVICE ENTRANCE SURGE PROTECTION DEVICE (SPD): The SPD shall be mounted in the control panel / motor control center section adjacent to the Main Breaker. The SPD is connected to the main bus in the panel with conductors of size and of no greater length than indicated in the Surge Protection Device manufacturer's installation instructions. SPD shall be a Type 2 device ideal for distribution panels, branch panels and critical loads.

A. SPD shall provide transient voltage surge suppression and electrical high frequency noise filtering. Unit is designed for parallel connection to the main bus. SPD unit uses selenium cells and metal oxide varistors to achieve its performance. Products using gas tubes, spark gaps, silicon avalanche diodes or other components, which under failed conditions would cause system failure, are not acceptable.

B. Manufacturer qualifications: The product of a manufacturer engaged in the commercial design and manufacture of the type of product described herein for a minimum five (5) years.

C. Standards: Product complies with the requirements of the following:

1. cUL
2. CE Compliant
3. UL 1449 3rd Edition
4. UL 1283 Listed
5. NEMA LS1 Compliance

A. Operating Voltage: 120/240 volts, 3-phase, 4-wire + ground

B. Maximum Continuous Operating Voltage (MCOV): greater than 115 percent of nominal voltage for all products. All suppression filter systems comply with NEMA LS 1.

C. Frequency: Operating frequency range of 47 – 64 Hertz.

D. Protection Modes: all phases – phase to ground; all phases – phase to neutral; all phases – phase to phase; and neutral to ground.

E. Rated Single Pulse Surge Current Capacity: at rated voltage, no less than:

160,000 A	Line to Line
80,000 A	Line to Neutral
80,000 A	Line to Ground

80,000 A Neutral to Ground

- F. Tested Single Pulse Surge Current Capacity: Filter system is designed to withstand a single pulse surge current up to 150 percent of the design rating and tested at an independent test laboratory. In the absence of testing facilities capable of such testing, testing of individual components or sub-assemblies within a mode is accepted by ANSI C62.41-1991; the testing includes a Category C1 surge test followed by a second Category C1 test. The test results demonstrate the unit does not degrade by more than 10 percent from the initial test.
- G. Clamping Voltage: Suppression filter system clamping voltages are in compliance NEMA LS1-1992.
- H. High Frequency Filter: EMI-RFI noise rejection or attenuation values comply with test and evaluation procedures of NEMA LS1-1992.
- I. Overcurrent Protection: Unit includes coordinated UL 489 or UL 198 listed or recognized overcurrent protection devices.
- J. Documentation: Provide product data including equipment manual, electrical and mechanical drawings indicated dimensions weights, mounting provisions, connection details and layout diagram, certified tests of UL1449 Listing/Clamp Voltages and NEMA LS1 compliance, certified single pulse surge current capacity testing, and minimum repetitive surge current capacity testing.
- K. Status Indicators: Unit has long-life, solid state, externally visible status indicators that monitor the on-line status of each phase of the unit.
- L. Warranty: 25-years Unlimited Free Replacement for service entrance Surge Protection Device.
- M. TVSS system shall be equal to SSI SSMA163D1 for service entrance.

TAG
SPD

SERVICE
Service Entrance Surge Protection Device

- 7.02 PHASE FAILURE/UNBALANCE/UNDER VOLTAGE/REVERSAL RELAY: Phase monitor shall be designed to protect 3-phase motors regardless of size and for use with 200 – 240 or 425 – 485 VAC, 50 to 60 Hz motors to prevent damage. The unit shall constantly monitor the three phase voltages to detect harmful power line conditions, caused by single phasing, low voltage, phase reversal and voltage unbalance. When a harmful condition is detected, an output relay is deactivated after a trip delay. The output relay shall reactivate after power line conditions return to an acceptable level for the specified Restart Delay. The trip

delay shall prevent nuisance tripping due to rapidly fluctuating power line conditions. Phase monitor shall have the following features and functions.

- A. Under Voltage:
Trip: -15% of setting for 230V (-10% for 480V)
Reset: -12% of setting for 230V (-8% for 480V)
 - B. Over Voltage:
Trip: -15% of setting for 230V (-10% for 480V)
Reset: -12% of setting for 230V (-8% for 480V)
 - C. Phase Unbalance:
Trip: 7% with 5 second trip delay
15% with 1 second trip delay
Reset: 6%
 - D. Trip Delay:
5 seconds (delay is reduced to 1 second if Phase Unbalance is 15% or greater)
 - E. Reset Delay:
2 seconds standard (5-60 seconds optional)
 - F. Voltage Range: 200V to 240V or 425V to 525V
 - G. Output Rating: 10A resistive @ 240VAC
6A resistive @ 240VAC
 - H. Operating Temp: -40°C to +50°C, -38°F to +122°F
 - I. Storage Temp: -45°C to +85°C, -47°F to +185°F
 - J. Enclosure: Lexan, surface mount
 - K. UL and cUL listed
- | | |
|------------|---------------------------------|
| <u>TAG</u> | <u>SERVICE</u> |
| PM | Electrical System Power Monitor |

7.03 SOLID STATE STARTER: Provide a solid-state starter, including the following features for each motor.

A. GENERAL

This specification describes the requirements for a solid-state motor controller to provide voltage ramp soft starting of a standard AC induction motor. These controllers shall provide a superior alternative to other types of reduced voltage starting such as autotransformer, wye-delta, primary resistor, and part winding. Provide smooth stepless acceleration, reduced inrush current, smaller physical size, and higher duty cycle capability.

B. QUALIFICATIONS

1. Manufacturer

- a. The manufacturer shall have a minimum of fifteen (15) years experience in the manufacturer of solid state reduced voltage

controllers.

b. The approved manufacturers are:

2. Support

- a. The manufacturer shall maintain factory trained and authorized service facilities within one-hundred (100) miles of the project and shall have a demonstrated record of service for at least the previous ten (10) years.
- b. Support personnel are to be direct employees of the manufacturer.

3. Certification

- a. To insure all quality and corrective action procedures are documented and implemented all manufacturing locations shall be certified to the ISO-9001 Series of Quality Standards.
- b. Third party manufacturers and brand labeling shall not be allowed.

C. REFERENCES

1. The controller shall be designed to meet the applicable requirements of:

- a. EN
- b. IEC
- c. cULus
- d. NEMA
- e. IEEE
- f. VDE

2. These standards shall include:

- a. Creep distances and clearances 600V (UL/CSA) and 500V (IEC)
- b. Power terminal markings per EN 50005 and EN 60947
- c. Dielectric withstand per UL508 and IEC947
- d. Noise and radio frequency (RF) immunity per NEMA ICSA1-109
- e. Surge withstand per IEEE587 and IEC 801-5

D. WARRANTY

1. The manufacturer shall provide their standard parts warranty for

eighteen (18) months from the date of shipment or twelve (12) months from the date of being energized, whichever occurs first.

2. This warranty applies only to stand alone solid state reduced voltage controllers.

E. RATINGS

1. The solid state reduced voltage controller shall accept an input voltage of 240 VAC, three-phase plus or minus ten percent (+/-10%).
2. Environmental Ratings
 - a. Storage ambient temperature range: -20 to 75 degrees C.
 - b. Operating ambient temperature range: 0 to 50 degrees C.
 - c. The relative humidity range: 5% to 95% non-condensing.
 - d. Operating elevation: up to 2000 Meters.
3. Definitions
 - a. The Solid State Reduced Voltage Controller Unit shall refer to the actual controller unit that will be mounted within the specified enclosure.
 - b. The Solid State Reduced Voltage Controller System shall refer to the controller unit and all items specified under Controller System Options.

F. SOLID STATE REDUCED VOLTAGE CONTROLLER UNIT DESIGN

1. The open-type controller device shall be modular, consisting of a power structure and a logic component.
2. Power Structure
 - a. The power structure shall include an SCR bypass.
 - b. The power structure shall include a built-in overload.
 - c. For ratings 1 Amps to 1250 Amps, the power structure shall consist of three power poles with integral heatsinks.
 - d. Power poles are to be modular in design that each is easily replaceable.
 - e. Back-to-back SCR pairs shall be the only power switching semiconductor means acceptable. Diode-SCR (Silicone Controlled Rectifier) combinations shall not be acceptable.
 - f. SCRs shall have the following minimum repetitive peak inverse voltage ratings.

- i. 1400V for units rated 200 to 480V
- ii. 1600V for units rated 200 to 600V
- iii. 1800V for units rated 230 to 690V

3. Logic Component

- a. The logic component shall be a self-contained control module, compatible with the full range of power structures. The control module shall mount directly to the power structure.
- b. The control module shall provide digital microprocessor control and supervision of all controller operation, including pulse firing of the SCRs.
- c. The control module shall consist of the following:
 - i. Self-tuning power supply accepting control power input from 100 to 240 VAC or 24V AC/DC, 50/60 Hz.
 - ii. Logic control circuitry incorporating a latch circuit for three-wire control.
 - iii. SCR firing circuitry that incorporates an RC snubber network to prevent false firing.
 - iv. Input / output circuitry
 - v. Digital programming keypad.
 - vi. Backlit LCD display.
 - vii. DPI communication port.
- d. The control module shall be easily removed from the power structure, without the need to disassemble associated printed circuit board assemblies.
- e. The control terminals shall be easily accessible and located on the front top of the device. The terminals shall be UL rated for 300 Volts, 10 Amps maximum and accept a maximum of two wires rated number 18 to number 14 AWG.

G. CONTROLLER UNIT FEATURES

- 1. **Starting Modes:** The controller shall provide the following starting modes as standard.

a. Soft Start with Selectable Kickstart

- i. Programmable initial torque value of 0 to 90 percent of locked rotor torque.
- ii. Programmable acceleration ramp time from 0 to 30 seconds.
- iii. A selectable kickstart, or boost, shall be provided at the beginning of the voltage ramp. The kickstart shall provide a current pulse of 550 percent of the full load current. The kickstart time shall be adjustable from 0 to 2 seconds.

b. Current Limit Start

- i. Provides means of limiting the maximum starting current.
- ii. Programmable for 50 to 600 percent of full load current

g. Full Voltage Start

- i. Provides across the line starting.
- ii. Ramp time shall be less than 0.25 seconds.

h. Dual Ramp Start

- i. Provides two separate soft start profiles with separately adjustable ramp times and initial torque settings.
- ii. Programmable acceleration times from 0 to 30 seconds
- iii. Programmable initial torque values from 0 to 90 percent of locked rotor torque.

i. Soft Stop

- ii. The Soft Stop option shall provide a voltage ramp-down for an extended motor stopping time
- iii. Soft Stop shall be initiated by a Stop input. A coast-to-rest stop shall still be possible with separate stop input.
- iv. Programmable voltage ramp down time from 0 to 60 seconds.
- v. The load shall stop when the motor voltage drops to a point where the load torque is greater than the motor torque.

j. Preset Slow Speed

- i. Provides a slow speed for applications requiring a slow speed
- ii. The Present Slow Speed shall provide two jog speeds in the forward direction: high (15 percent of base speed) and low (7 percent of base speed).
- iii. The Present Slow Speed option shall provide two jog speeds in the reverse direction: high (20 percent of base speed) and low (10 percent of base speed). Reverse operating of the motor shall be available in the jog mode without use of reversing contractor.
- iv. The starting current for the slow speed operation shall be user adjustable from 0 to 450 percent of the motor's full load current rating.
- v. The running current for the slow speed operation shall be user adjustable from 0 to 450 percent of the motor's full load current rating.

2. The controller shall provide options for the following mutually exclusive starting and stopping modes. Refer to the system specifications for the option (if any) required.

a. Pump Control

- i. The Pump Control option shall be implemented to provide closed loop control of a motor to match the specific torque requirements of centrifugal pumps for both starting and stopping. This shall aid in eliminating the phenomena commonly referred to as "water hammer." Methods utilizing Soft Start with Soft Stop shall not be acceptable.
- ii. Closed loop control shall be achieved without using external sensors or feedback devices.
- iii. Pump Stop shall be initiated by a dedicated Pump Stop input. A coast-to-rest shall still be possible with a separate stop input.
- iv. Programmable starting time from 0 to 30 seconds.
- v. Programmable stopping time from 0 to 120 seconds.

3. LCD Display

- a. An alphanumeric, backlit LCD display shall be provided for controller set-up, diagnostics, status and monitoring. The

display shall be four-line, 16 characters minimum.

- b. Digital parameter adjustment shall be provided through a keypad. Analog potentiometer adjustments are not acceptable.

4. Overload Protection

- a. Shall meet applicable standards as a motor thermal protective device.
- b. Shall utilize three-phase current sensing. The use of two current transformers shall be unacceptable.
- c. Selectable trip classes of 10, 15, 20 and 30 shall be provided as standard.
- d. Electronic thermal memory shall provide enhanced motor protection.

5. Digital I/O

- a. A minimum of four (4) auxiliary contacts shall be provided for customer use.
- b. The contacts shall be rated for 240 Volts AC maximum.
- c. Contact configuration shall be programmable and contain the following configurations:
 - i. Normal Operation (N.O. or N.C.)
 - ii. Up-to-Speed Indication (N.O. or N.C.)
 - iii. External Bypass
 - iv. Fault Indication (N.O. or N.C.)
 - v. Alarm Indication (N.O. or N.C.)
 - vi. Network Controlled Output (N.O. or N.C.)

6. DPI Serial Communication Port

- a. A DPI serial communication port shall be provided as standard.
- b. Optional communication protocol interface modules shall be available for connection to Ethernet, Remote I/O, DH485, ControlNet, DeviceNet and RS232/422/485.

7. Monitoring

- a. The controller shall provide the following monitoring functions indicated through the LCD display.
 - i. Three-phase current

- ii. Three-phase voltage
- iii. Power in kW
- iv. Power usage in kWh or mWh
- v. Power factor
- vi. Motor thermal capacity usage
- vii. Elapsed time

8. Protection and Diagnostics

- a. The following protection shall be provided as standard with the controller.
 - i. Pre-start line fault advising of shorted SCR or missing load connection with phase indication.
 - ii. Running line fault advising power loss, shorted SCR or missing load connection.
 - iii. Over temperature
 - iv. Open Gate with phase indication
- b. The following programmable protection shall be provided as standard with the controller.
 - i. Underload
 - ii. Undervoltage
 - iii. Overload
 - iv. Overvoltage
 - v. Voltage Unbalance
 - vi. Excessive Starts Per Hour
 - vii. Phase Reversal
 - viii. Stall
 - ix. Jam
- c. When fault conditions are detected, the controller shall inhibit starting or shut down SCR pulse firing.
- d. Fault diagnostics shall be indicated in descriptive text on the LCD display. The exclusive use of fault codes is unacceptable.
- e. An auxiliary contact that is programmable for fault indication shall be provided for customer use.

TAG
SSS
SSS

SERVICE
Pump No.1 Solid State Starter
Pump No.2 Solid State Starter

7.04 POWER SUPPLY: Power supplies shall be for 120V AC primary and 13.5V DC secondary and shall have a frequency range of 47-440 Hz with an inrush current

of 35A. Secondary adjustment range shall be 10% minimum. Line and Load regulation shall be 0.3%. Output ripple shall be no more than 180mV. Voltage Tolerance shall be 1%. Over voltage protection shall clamp at 115-135% and short circuit protection shall be continuous, self-recovering.

TAG

DPS

SERVICE

DC Power Supply

- 7.05 UNINTERRUPTIBLE POWER SUPPLY: Provide a battery charger for 12V DC Sealed Lead Acid rechargeable batteries with an optional 24V DC isolated output. The maximum battery current charging current is 2.9 amps for a completely dead battery and typically less than 0.4 amps for battery voltages over 10V DC. Trickle charging shall stop at a battery voltage of 13.8V DC. The unit shall operate on 13.8V DC with a current rating of up to 11 amps. Provide an optional, integral battery backed up 24V DC option that is capable of being field mounted onto the unit, for powering external 4-20 mA loops or other instrumentation of up to 1 amp maximum load and shall be isolated from the input power supply if necessary. Provide quick-connect terminal blocks for all connectors. Provide High and Low input power supply voltage.

TAG

UPS

SERVICE

Uninterruptible Power Supply

- 7.06 RECHARGEABLE BATTERY: The battery shall be a sealed Lead-Acid type with ABS plastic case and spill proof construction allowing safe operation in any position. Nominal voltage shall be 12V DC (six cells in series). The nominal capacity shall be 12.0 Ah at a discharge rate of 20 hours (600 mA to 10.5 volts). Terminal configuration shall be via quick disconnect tabs type F1: 0.187" x 0.032". Operating temperature range shall be at least -4° to +122°F. The unit shall be UL recognized.

TAG

BAT

SERVICE

Standby Power Supply

- 7.07 RADIO MODEM TRANSCEIVERS: Radio Modem Transceiver shall provide re-farming compliant high speed data link communication with system security and diagnostic reporting. The RMT shall provide full UHF, VHF, and 900 MHz MAS bands as required by the FCC license. The RMT shall be capable of transmitting MODBUS protocol messages. Built-in radio diagnostics shall be included and shall be capable of reporting specific unit programming, link testing, and radio performance statistics including RSSI, temperature, supply voltage, and additional parameters throughout the radio. Radio diagnostic information shall be capable of on-line communication with each transmission with no interruption in the application, and with minimum overhead. The RMT shall also comply with FCC re-farming and power regulations. Bandwidth shall not exceed 12.5 KHz. To assure communications with the OWNER=s existing resources and to assure

compliance with FCC regulations, Radio Modem Transceivers shall be Cal-Amp Model Guardian 100 - No Substitutes shall be accepted.

TAG
RMT

SERVICE
Radio Modem Transceiver

- 7.08 ANTENNA: Antennas shall be either of two types with masts/heights as indicated in the Signal Path Survey (which shall be conducted by the facilities supplier). Antenna types shall comply with the following:

Omni Directional Type 1: Cushcraft Model #CRX-150B (or approved equal)
Yagi Directional Type 2: Cushcraft Model #P154-4 (or approved equal)

<u>Antenna Height:</u>	<u>Description:</u>
20 Feet	Rohn Model #161005GHS (or approved equal)
30 Feet	Rohn Model #H30 (or approved equal)

TAG
ANT

SERVICE
Radio Modem Transceiver Antenna

- 7.09 BULKHEAD LIGHTNING ARRESTER: Radio lightning protection shall be bulkhead mounted and shall be rated as follows:

Throughput Energy: 600 J
Frequency Range: 1.5 to 400 MHz
Max. Power: 375 W, VHF

TAG
AP

SERVICE
CTU/RTU Radio Lightning Arrestor

- 7.10 DUPLEX PUMP CONTROLLER: Provide a Duplex Pump Controller including the following features:

A. OPERATORS AND FRONT PANEL INDICATORS (for each pump)

1. Manual-Off-Automatic selector switch
2. Green "Pump Running" pilot light
3. Red "Pump Failure" pilot light
4. Red "Pump Seal Failure" pilot light

- B. A Pump NO.1 LEAD - ALTERNATE - Pump NO.2 LEAD sequence selector switch to select either pump as lead pump or to select that the pumps alternate as lead pump on each call for cycle.

- C. Signal inputs for stop, lead pump start, lag pump start, and high/low alarm. The sensors shall be optically isolated and operate on 24V DC with a maximum current of 16 mA for intrinsic safety.
- D. Pilot light indicators for each signal input described above, as well as, Pump No.1 and No.2 running inputs.
- E. The controller shall operate a pump based upon various combinations of signal inputs. Normal operation shall operate pumps in the following automatic sequence:
 - 1. With no signal inputs activated and both pumps off, a stop input activation shall not cause a pump to operate. With a stop input activated and a lead start input activated, the controller shall start a single pump that pump shall operate until the lead start and stop inputs are deactivated. With both the stop and lead start inputs activated and one pump operating, a lag start input being activated shall operate the second pump. Both pumps shall operate until the lag start, lead start, and stop inputs are deactivated.
 - 2. In the event an input device(s) fails to activate the controller shall operate as follows:
 - 3. With a stop input device failure, the controller shall operate a single pump based upon the status of the lead start input and a field adjustable short cycle delay. The short cycle delay shall keep the pump operating after the start input deactivates for the delay time setting. If the stop input device fails to activate, the controller shall operate one pump as described above with the lag start input starting the second pump. Both pumps shall operate until both start inputs are deactivated and the individual pump short cycle delays have expired. In the event both the stop and lead start inputs fail to operate, the controller shall operate both pumps based upon the status of the lag start input and the individual pump short cycle delay timers. Both pumps shall operate until the lag start input is deactivated and the individual pump short cycle delays have expired. If all input devices fail except the high/low alarm input, the controller shall operate both pumps based upon the status of the high/low alarm input and the individual pump short cycle delay timers. Both pumps shall operate until the high/low alarm input is deactivated and the individual pump short cycle delays have expired.
- F. A field adjustable failure time delay for each pump, in the range of 5 seconds to 62 minutes, to start the lag pump at the lead pump start point if the lead pump fails or if the lead pump selector switch is placed in the off position. If a pump fails, the remaining functional pump shall remain the

lead pump on future cycles. The failed pump shall only be called to operate at the lag pump operating point. Normal pump alternation shall resume when the failure condition is corrected and the pump has been reset.

- G. Soft stop feature to require the pumps to stop three (3) seconds apart during the condition that both pumps are running when signaled to stop. Soft start feature to require the pumps to start three (3) seconds apart during conditions that the lead and lag pumps are called for simultaneously.
- H. Individual field adjustable time controls to delay starting each pump in the automatic mode after power failure or during initial startup.
- I. Pump failure, pump seal failure, and high/low alarm red pilot lights shall flash when activated. Provide field selectable controls to allow the seal failure indicator to burn steady when activated.
- J. Manual override inputs for each pump, which can be used to manually override the duplex controls', pump outputs when the controls are in the Automatic mode. Inputs shall be provided to start or stop each pump from a remote location.
- K. Provide a selectable improper sequence alarm to activate the common alarm in the event the control inputs are activated in the wrong order. The proper order shall be Stop, Lead Start, and Lag Start. The High water alarm shall not be included in the improper sequence test. Provide a selectable Lag Stop Level control to allow the lag pump to stop based upon the status of the lead start level input.
- L. Provide automatic pump alternation on pump failure and seal failure when a failure condition is detected and the pumps are in the automatic mode. The failed pump shall be made the lag pump on future cycles until the failure condition is corrected. Pump failure shall require manual reset to clear the failure condition and the seal failure condition shall clear when the failure condition clears. Provide field selectable controls to allow the seal failure condition to not automatically alternate the pumps.
- M. An exterior alarm light output that would flash the light brightly during any common alarm condition that includes pump failure, seal failure, improper sequence, and high water alarm. The output shall allow the light to dim glow under normal conditions to indicate that power is on and the lamp is good. A normally open common alarm output contact shall be energized by these alarm conditions. Provide selectable controls to prevent the seal failure input from activating the common alarm output and alarm light.

N. Provide an intelligent Lift Station Analyzer with the following features:

1. Provide the following additional inputs: an external normal power failure input for use in remote telemetry, three (3) 4-20 mA analog inputs with an input resistance of 100 ohms.
2. Provide the following additional outputs: pump no.1 is lead, pump no.2 is lead, pump no.1 selector switch is in the automatic position, and pump no.2 selector switch is in the automatic position.
3. Provide front panel status indicators for pump running, pump failure, pump seal failure, high/low alarm and auxiliary input.
4. Provide selectable first on/first off control to allow the first pump activated to be the first pump off when both pumps are activated.
5. Influent and Effluent flow rate calculation based on floats or portable submersible pressure level transmitter.
6. Provide two serial communications ports, one RS-232 and one RS-485 for interfacing with RTU's, PLC's, radio or telephone modems, operator interfaces, and PC's. The ports shall support industry standard communication protocols, such as MODBUS™ and BrickNet™ at baud rates of 1200, 2400, 4800, and 9600.
7. Provide a user selectable unit address from 000 to 999. The switches shall allow the unit address to be set without software or special equipment.
8. Provide user selectable cross sectional area switches. The switches shall allow the cross sectional area of the wet well to be set without software or special equipment.
9. Provide user selectable float distance setting switches. The switches shall allow the distance between the stop, lead start and lag start floats to be set without software or special equipment.
10. Provide average pump capacity calculation as well as the following other statistics: Pump Runtimes, High/Low and Average Inflow for the last 24 hours, Average flow-capacity loss when more than one pump is running, Estimate Real-Time level based upon current flows and float positions.
11. Provide TRUE Volumetric Influent Flow calculation with long-term averaged error not to exceed 0.2% of Full Scale.

12. The analyzer shall be capable of operating with float switches or a level controller with dry contact outputs for All-Stop, Lead Start and Lag Start during normal operation and use a portable submersible pressure level transmitter (SPLT) for automatic calibration in determining the level positions of all floats. During the calibration process, the SPLT shall automatically start the calibration procedure when it is plugged into the lift-station analyzer, and stop the procedure when it is unplugged.
13. For level control systems using SPLT level sensing, the analyzer shall be capable of using the signal from the SPLT in all calculations.
14. The controller shall monitor key lift station functions such as Seal and Pump Failures, Improper Sequence, General Alarm, High Level Alarm, Pump Currents, pump runtimes, and pump duty cycles.
15. Data-logging and storage in non-volatile memory.
16. Capability for an optional external operator interface hex-keypad for easy entry of floating point numbers, setpoints, menu selections and other parameters that need to be entered into the controller.

TAG
DCI-2

SERVICE
Pump Station Duplex Pump Controller

- 7.11 FLOAT TEST: Provide input indicator and test module with improper input sequence indicator and controls. The following controls and equipment shall be supplied.
- A. Four deadfront panel mounted input pilot light indicators: One for each of the following level control points Stop, Lead Start, Lag Start and High Level alarm.
 - B. Four deadfront panel mounted pushbuttons to test each pump level control input.
 - C. Automatic input sequence monitoring, such that if the inputs do not occur in proper order (stop, lead start and lag start); a red pilot light indicator shall be activated.
 - D. If stop input fails, followed by lead input activation, lead pump shall operate and continue until lead pump input is removed and a field adjustable time delay has expired.
 - E. If stop input fails, followed by lead and lag input activation, both motors shall operate and continue until their respective input is removed and an

individual field adjustable time delay for each pump has expired.

F. If stop, lead and lag inputs fail, followed by high level input activation, both motors shall operate and continue until the high level input is removed and a field adjustable time delay for each pump has expired.

G. Improper sequence activation shall also activate the common external alarm controls.

H. Improper sequence alarm shall require reset button activation to remove the alarm light.

TAG
FT

SERVICE
Float Test Module

- 7.01 FLOAT SWITCHES: The float switch shall be a direct acting switch and contain a single pole mercury switch, which actuates when the longitudinal axis of the float is horizontal and de-actuates when the liquid level falls 1" below the actuation elevation. The float shall have a chemical resistant polypropylene casing with a firmly bonded electrical cable protruding. One end of the cable shall be permanently connected to the enclosed mercury switch and the entire assembly shall be capsulated to form a completely watertight and impact resistance unit. Float shall include a bracket for support pipe mounting.

TAG
F

SERVICE
Wetwell Float Switches (Qty. 4)

- 7.02 MOTOR MONITOR: Provide an electronic solid state Motor Monitor with proportional 4-20mA output, powered by 120 volt AC that will accept a zero (0) to five (5) amp input signal condition the signal to perform ON/OFF or OPEN/CLOSE discrete dry type setpoint contact conditions based on the input signal value. The Motor Monitor shall have the following features.

- A. Provide an LCD readout meter providing field adjustable scales of 0-25.0, 0-50.0, 0-100.0, 0-250, 0-500 and 0-1000 to accurately indicate the motor full load current using the 0-5 amp input signal.
- B. The Monitor shall be capable of displaying motor total running time up to 99,999.9 hours and be provided with reset capability from the rear of the monitor. The display shall include a non-volatile EEPROM memory backup that does not require battery backup during power failure.
- C. Provide two (2) separate field adjustable setpoints, each with discrete, isolated sealed SPDT relay output contacts. The setting of each setpoint shall be adjustable throughout the complete signal range from the front of the Monitor. Each set point shall be provided with a field adjustable "ON"

and "OFF" time delay, adjustable from zero (0) to fifteen (15) seconds. The actual setting of each setpoint shall be able to be displayed on the LCD readout at any time. An LED indicator shall be provided for each setpoint and shall operate as follows:

1. Setpoint No. 1: When setpoint is timing, the indicator shall burn amber. After timing period and current is at or above setpoint, indicator shall burn green.
 2. Setpoint No. 2: When set point is timing, the indicator shall burn amber. After set timing period and current is at or above setpoint, indicator shall burn red.
- D. Provide a 4-20mA or a 1-5Vdc output signal which is proportional to the amperes being measured. Load maximum impedance should not exceed 330 ohms. Output signal shall be factory calibrated.

TAG

MM-1

MM-2

SERVICE

Pump No.1 Motor Monitor

Pump No.2 Motor Monitor

7.03 CURRENT TRANSFORMER: Current transformers insulation class shall be 0.6 KV BIL, 10 KV Full Wave. They shall be manufactured to meet the requirements of UL1244 and have a minimum accuracy of 60Hz of 2%. Current transformers shall be provided with brass stud terminals and mounting bracket.

7.04 COMMON ALARM LIGHT: Alarm Light shall be RAB catalog number VBR100/GL100PGR or equal. Alarm light enclosure shall be constructed of die cast aluminum with a sturdy mounting bracket. Alarm light shall be suitable for wet location and comply with UL standard 1598, for hazardous locations where the lamp, socket and wiring require protection from rain, corrosive fumes, non-combustible dusts, moisture, non-explosive vapors and gases. The alarm light shall burn dim and steady during normal conditions to indicate electrical power "ON" and lamp good. During any alarm condition, the alarm light shall flash brightly. Alarm light mounted on the side of the enclosure or as directed by the project engineer.

TAG

AL

SERVICE

Common Alarm Light

7.05 CONTROL POWER SURGE PROTECTION DEVICE (SPD): The surge protection device shall be mounted in the control panel in series with the control power circuit. Provide a single-phase, in-line series AC power line surge protector with the following features:

- A. Rated voltage shall be 120 VAC @ 60Hz.

- B. Current rating shall be 20 Amps @ 40°C.
- C. The protection circuitry shall automatically reset after the transient has passed.
- D. Protection modes shall be: Line to Neutral, Line to Ground, and Neutral to Ground.
- E. Provide three (3) Green LED indicators to indicate protection status of each mode when power is present (L-N, L-G, N-G).
- F. Varistors with integral thermally activated elements shall be used to open in the event of overheating due to the abnormal overvoltage, limited current conditions outlined in UL1449. The lower inductance of the varistors shall result in improved clamping performance to fast overvoltage transients.
- G. Metal Oxide Varistors (MOV) shall have cured, flame retardant epoxy polymer coating meeting UL94V-0 requirements.
- H. Electromagnetic Interference (EMI) filtration shall be incorporated into the unit to dampen unwanted signals from the protected side of the unit.
- I. Operating temperature shall be -40 to +70°C.
- J. Screw terminals shall be provided for all wiring.
- K. Maximum continuous operating VAC shall be 115% of rated line voltage.

TAG
SPD-2

SERVICE
Control Power Surge Protection Device

END OF SECTION

GROUTED RIPRAP

DESCRIPTION:

This work consists of furnishing and placing a protective covering of erosion resistant material including geotextile fabric, where shown on the plans for pier foundation protection, slope, or ditch protection. This work shall be in accordance with these specifications and in reasonably close conformity with the lines, grades and dimensions shown on the plans or established.

MATERIALS: Materials shall conform to the following:

Geotextile fabric shall meet the requirements of Type V with a tensile strength of 200 lbs.

Aggregate for loose riprap, stone riprap for foundation protection, or that to be grouted shall consist of field stone, broken concrete, or rough, unhewn quarry stone as nearly rectangular in section as is practicable. The stone shall be dense, free of clay or shale seams, resistant to the action of air and water, and suitable in all other respects for the purpose intended. Quality requirements for rock to be furnished under these specifications will be checked or tested as determined by the Testing Engineer prior to use and subsequently if deemed appropriate.

CONSTRUCTION DETAILS:

Prior to the construction of riprap or slope paving, the slopes or ground surface shall be shaped to lines and grades, indicated on the plans or directed, and shall be thoroughly compacted by the use of mechanical or hand tamps. Unless otherwise stipulated or directed, slopes shall not be steeper than the natural angle of repose of the material upon which riprap is to be constructed.

The outer edges and the top of the riprap or slope paving where the construction terminates shall be formed so that the surface of the riprap or slope paving will be embedded and even with the surface of the adjacent slope or ground, and the bottom of the riprap or slope paving shall be placed at least two feet below the natural ground surface unless otherwise directed.

All riprap or slope paving shall be started at the bottom of the slope and constructed upward.

INSTALLATION OF GEOTEXTILE FABRIC:

When required by the contract, geotextile fabric shall be placed in the manner and at

locations shown on the plans. The area to receive the fabric shall be prepared to a relatively smooth condition free of obstructions, depressions and debris. The fabric shall be placed loosely without wrinkles or creases with the long dimension perpendicular to the channel. The strips shall be placed to provide a minimum overlap of 18 inches. Securing pins with washers shall be inserted through both strips of overlapped fabric at mid-point and not greater than two foot intervals. Additional pins shall be installed throughout the fabric as necessary to prevent any slippage. The fabric shall be placed so that the upstream strip overlaps the downstream strip and the higher slope strip overlaps the lower strip. Each securing pin shall be pushed through the fabric until the washer bears against the fabric and secures it firmly.

The fabric shall be protected from contamination and damaged during installation and placement of the specified cover material. Riprap shall not be dropped from a height greater than three feet. Contaminated fabric shall be replaced, and damaged fabric shall be repaired or replaced as directed at no cost to the Department.

The fabric shall be covered with a layer of the specified material within 14 calendar days after placement. Fabric not covered within this time period shall be removed and replaced at the Contractor's expense if damage or deterioration is evident, as determined by the Engineer.

GROUTED RIPRAP

Grout for grouted riprap shall consist of one part of portland cement and three parts of approved sand thoroughly mixed with water to produce grout having a thick, creamy consistency.

The stones shall be of the size designated in the bid schedule of the contract and shall be placed in the same manner as specified for loose riprap. Care shall be taken during placing to keep earth or sand from filling the spaces between the stones.

After the stones are in place, the spaces between them shall be completely filled with grout from bottom to top and the surface swept with a stiff broom.

CLEANING UP:

Upon completion of the work, the surface of the riprap or slope paving shall be cleaned, surplus material and debris removed and disposed of as directed, and the site of the work left in a neat presentable condition.

WATER SYSTEMS

1. GENERAL

a. This item shall consist of furnishing all of the necessary materials, supervision, labor, tools, equipment and incidentals, and the installation of various types and sizes of water pipe and related items in accordance with the Contract Drawings and Specifications, as stated in the Proposal.

2. APPLICABLE PUBLICATIONS

a. The following publications form a part of these Specifications and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

i. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- (1) A 139 Electric-Fusion (Arc) welded steel pipe (sizes 4 inch and over).
- (2) A 252 Welded and Seamless steel pipe piles.
- (3) Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field.
- (4) C 33 Concrete Aggregates
- (5) C 39 Test for Compressive Strength of Cylindrical Concrete Specimens.
- (6) D 2922 Density of Soil Aggregate in place by the clear Method (shallow depths).

ii. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- (1) 21.10 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch for Water and other Liquids.
- (2) Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.
- (3) Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-line Molds, for Water or other Liquids.

iii. AMERICAN WATER WORKS ASSOCIATION (AWWA)

- (1) C 104 Cement-Mortar Lining for Cast Iron Pipe and Fittings for Water and Other Liquids.
- (2) C 106 Cast Iron Pipe Centrifugally Cast in Metal Molds, for water and other Liquids.
- (3) C 110 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids.
- (4) C 111 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.
- (5) C 150 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or other Liquids.

iv. AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO)

- (1) T-88 Particle Size Analysis of Soils.
- (2) T-89 Determining the Liquid Limit of Soils.
- (3) T-90 Determining the Plastic Limit and Plasticity Index of Soils.
- (4) T-99 Moisture Density Relations of Soils Using a 5.5 lb. Rammer and 12 inch Drop.
- (5) T-191 Density of Soil In-Place by the Sand-Cone Method.

v. MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Standard Specifications for Road and Bridge Construction, current edition.

3. SUBMITTALS

a. The following submittals shall be required for the respective materials used in the work. All submittals shall be submitted through the Contractor to the Engineer.

- i. Ductile Iron Pipe: The following submittals shall be required for ductile iron pipe systems utilized on the project. The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to

the requirements as specified hereinafter under Article 4.0, Materials. In addition, the submittals shall include the following:

- (1) Joints: The following shall be required for ductile iron joints.
 - (2) Drawings or Manufacturer's Catalogue data indicating dimensions and tolerance.
 - (3) Gaskets shall be tested in accordance with the respective standards as indicated in ANSI 21.11 and results shall be included in the submittals. Test shall be for similar materials on the gaskets and be not more than one year old.
 - (4) Mechanical Joints: Should the Contractor elect to use mechanical joints in lieu of push-on joints, manufacturer's data shall be submitted in accordance with the "Special Requirements for the Mechanical Joint" as stated in ANSI 21.11 (AWWA C 111).
- ii. Ductile Iron Pipe: Submittal Shall Include the Results of the following. Sampling procedure shall be as indicated in ANSI 21.51.:
- (1) Tension Test
 - (2) Impact Test
 - (3) Low Temperature Impact Test.
- iii. PVC Pipe: The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements of these specifications and appropriate construction drawings.

4. MATERIALS – WATER SYSTEM:

a. Ductile Iron Pipe:

- i. Ductile iron pipe shall be designed in accordance with the latest revision of ANSI/AWWA C51/A21.51), rated working pressure of 350 psi plus a 100 psi surge allowance; a 2 to 1 safety factor on the sum of working pressure plus surge pressure in Type 3 laying condition with a depth of cover as required per plans.
- ii. Pipe shall have standard asphaltic coating on the exterior. Pipe also shall have a cement mortar lining on the interior in accordance with the latest revision of ANSI/AWWA C104/A21.4. If corrosion protection is required, polyethylene encasement shall be installed prior to the pipes installation in

accordance with ANSI/AWWA C105/A21.5-88.

- iii. All non-restrained pipe shall be furnished with push-on type joints such as "Fastite", or equal. Joints shall be in accordance with the latest revision of ANSI/AWWA C111/A21.11 and shall be furnished complete with all necessary accessories.
- iv. Where restrained joint pipe is required, "Fast Grip", "Flex-Ring", or "Field Flex-Ring" or approved equal shall be used. The length of restrained pipe shall be as tabulated or noted on the plans.
- v. Ductile iron fittings shall conform to the latest revisions of either ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53. Fittings, linings, and coatings shall be as specified for the pipe above.
- vi. All pipe, fittings and accessories shall be installed and tested in accordance with the latest revision of AWWA C600. Newly installed ductile iron water mains shall be disinfected in accordance with the latest revision of AWWA C651 prior to placing in service.

b. PVC PIPE

- i. All PVC pipes for this project shall be SDR 26, Class 160 psi, confirming to the latest edition of ASTM D2241, "*Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)*."
- ii. All PVC SDR Series pipe shall be manufactured from a Type I, Grade I Polyvinyl Chloride (PVC) compound with a Cell Classification of 12454 per ASTM D1784. The pipe shall be manufactured in strict compliance to ASTM D2241, consistently meeting and/or exceeding the Quality Assurance test requirements of this standard with regard to pressure rating, material, workmanship, burst pressure, flattening, impact resistance, and extrusion quality.
- iii. The pipe shall be manufactured in the USA, using domestic materials, by an ISO 9001 certified manufacturer. Standard lengths of pipe sizes 8" and larger shall be beveled on each end by the pipe manufacturer. All pipes shall be stored indoor after production at the manufacturing site until shipped from factory. This pipe shall carry the National Sanitation Foundation (NSF) seal of approval for potable water applications.

c. Gate Valves: Where indicated on the Plans or directed by the ENGINEER, the CONTRACTOR shall furnish and install gate valves as hereinafter specified.

- i. All gate valves shall be cast iron mechanical joint, M.J., Mueller A-2380-20,

equivalent or better.

- ii. All gate valves shall be furnished with O-ring packing and 2" square operating nut, AWWA 200lb., for cast iron water main.
- iii. Valve boxes shall be cast iron top and bottom. Extension pieces shall be provided as required.
- iv. Payment for furnishing and installing gate valves with box shall be made at the contract unit price per valve according to type and size as listed in the proposal.
- v. All valves will be set at a perfect 90 degree angle from level pipe, (perpendicular) so as to be easily accessible through properly set valve box as per specifications above.
- vi. The CONTRACTOR shall furnish and install either a two-piece or three-piece, slip type, cast iron valve box over each gate valve. Valve boxes will be set over valve operating nut, centered so as to be easily accessible with a valve operating wrench or key. They will be set to correspond with the finished grade of street, lot, or easement. No dirt will be left in box; box will not rest directly on valve body.

d. Fittings, Valves and Hydrants, Etc.:

- i. All fittings, valves and valve boxes, hydrants, and other appurtenances are to be set at the points indicated on the plans, or as directed by the ENGINEER, and omission to do so shall be corrected by the CONTRACTOR without extra cost to the OWNER.
- ii. All fitting shall either be Ductile Iron Compact (ANSI/AWWA C153/A21.53) or Cast Iron (ANSI/AWWA-C110/A21-10) and shall have mechanical joint ends and mechanical joint restraints (Series 1120) and shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A 536-80. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices.
- iii. The mechanical joint restraint device shall have a working pressure of a least

250 psi with a minimum safety factor of 2:1 and shall be EBAA Iron., MEGALUG or equal.

- iv. To improve the sealing capacity, the gaskets for all mechanical joints conforming to the requirements of ANSI/AWWA C110/A/21.10, C111/A21.11, or C153/A21.53 shall be of a design that causes the gasket to deflect approximately 30% during assembly of the mechanical joint. The gasket material shall conform to the requirements of ANSI/AWWA C111/A21.11, Section 1-6.4 of the latest revision. Mechanical joint gaskets shall be EBAA Iron's EBAA Seal- Improved Mechanical Joint Gasket or approved equal.
- v. Fittings (bends, tees, plus, and caps) shall be securely braced by mechanical joint restraints, as indicated on the Plans, to prevent the possibility of blowing off under pressure. And a full length of pipe shall be installed on each end of the fitting. Then cut pieces can be installed beyond the full lengths of pipe.
- vi. The prices bid furnishing and installing valves, fittings, etc., shall include compensation for furnishing mechanical joint restraints as required at beds, tees, plugs and caps. No separate or extra compensation will be allowed for any of the above specified incidental work or material.

e. Plugs and Caps:

- i. Where indicated on the Plans, or as directed by the ENGINEER, the CONTRACTOR shall install plugs for anticipated future extensions by placing a branch fitting (tee or cross) in the line and plugging the unused branch or branches. In general, such plugs will be located at street intersections where present plans provided lines running in only two or three directions from the intersections and where, in the opinion of the ENGINEER, a connection may be required for future extension. Where "deadend" lines are installed, the ends of such lines shall be plugged or capped as required.
- ii. For the various hot taps required according to the plans, and up to 12 inches, the JCM 432, stainless Tapping Sleeve shall be required. The CONTRACTOR shall furnish all materials for these various taps and shall make the tap as directed by the Engineer.

f. Casing Pipe: Steel pipe utilized as casing at locations shown on the Contract Drawings shall be new round piling pipe conforming to the requirements of ASTM A 252 or A 139. Casing diameter shall be adequate to allow pushing of the specified diameter of water pipe and make proper connections at the ends. Minimum Wall Thickness for steel casing is 0.375 inch.

g. Wash Gravel Bedding Material: Select Granular material for pipe bedding shall be

coarse concrete aggregate. The coarse concrete aggregate shall conform to the gradation sizing Number 467 specified in Table 2 of ASTM Standard Specification C-33. (See Following Table:)

SIZE NO. 467

Nominal Size (Sieves w/Square Openings)	Percent Passing by Weight
2"	100
1 - 1/2"	0 - 5
No. 4	35 - 70
3/8"	10 - 30
3/4"	95 - 100

h. Stabilization Material: Stabilization Material shall be a pit run mixture of sand and gravel. The sand shall be hard, sharp and durable particles. All gravel shall pass a 1 - 1/2" sieve.

i. Concrete: Concrete shall be in accordance with the requirements of Technical Specifications - CONCRETE

j. Select Backfill:

- i. General : The select material shall be composed of a natural or artificial mixture of sand, silt, clay or soil binder or other material of satisfactory cementing value. The sand shall be hard, sharp, and durable particles, preferably siliceous. The binder shall be a grade of clay or other material having satisfactory cementing qualities and shall be homogenous in character, free from vegetable matter, clay balls or other deleterious substances that cannot be classed as serviceable base material.
- ii. Gradation: Any coarse aggregate contained in the material shall pass the one and one-half (1-1/2), sieve and not more than thirty-five percent (35%) shall be retained in the Number 10 sieve. The plasticity index (P.I.) shall not exceed 12, nor shall the liquid limit exceed 30.
- iii. The composite selected sand-clay material passing the Number 10 sieve shall conform to the following minimum and maximum gradation limits:

Sieve	Percent Passing by Weight
Number 40	40
Silt (.05 to .005 mm)	30
Number 270	8
Clay (Passing .005 mm)	3
Number 60	3

- iv. Backfill: All other backfill shall consist of excavated material removed from the trench.

5. CONSTRUCTION:

a. Earthwork:

i. Site Preparation:

- (1) Topsoil shall be stripped and stockpiled in accordance with Technical Specifications.
- (2) All vegetation such as brush, heavy sod, heavy growth of grass, decayed vegetative matter, rubbish and any other unsuitable material within the area of trenching shall be stripped or otherwise removed before the trenching is started, and in no case shall such objectionable material be allowed in the trench.
- (3) Stripping operation shall be to a depth of not less than 6 inches in all cases.

b. Asphalt or Concrete Removal: Before trenching operations begin, the existing asphalt or concrete pavement shall be scored or cut to a proper depth to give a straight vertical edge when removed. The asphalt or concrete shall be disposed of offsite by the Contractor. While removing the asphalt or concrete in the trench line, never shall the adjacent asphalt be raised or pulled from its base.

c. Trenching:

- i. The Contractor shall determine all requirements for trench dimensions, alignment, and grades. The trench shall be excavated in conformance with all federal, state and local regulations for the protection of the workmen. Shoring, sheeting and/or a moveable form shall be used as required to provide earth stability during the laying operations.

- ii. The final excavation of the trench for the pipe installation shall be as indicated on the Plans. Minor variations in horizontal (within the permanent easement) or vertical alignment during construction shall be made during construction (with the Engineer's approval) to facilitate ease of installation and operation (due to potential conflicts; i.e., utility conflict) at no additional cost to the Owner except for additional piping, if any. The trench from the top of the pipe down to the bottom of the bedding shall be of a consistent width as indicated on the plans. Should the excavated width of the trench be larger than the design width, the Engineer may direct that a higher type or class of bedding be used; or other adjustments be made to increase the load carrying capacity of the pipe.
- iii. The Contractor shall not excavate more trench in advance of pipe laying than is necessary to perform the work efficiently. No more than 100 feet of open trench shall be allowed unless approved by the Engineer.
- iv. Excavated material shall be placed in a manner that will not obstruct sidewalks, driveways, or other structures. Excavated material shall not be placed so as to surcharge the walls and jeopardize trench stability.

d. Disposal:

- i. The Contractor shall satisfactorily dispose of all excess earth from excavations either in approved (by the Engineer) areas within the construction limits or away from the project in disposal sites obtained by the Contractor.
- ii. The Contractor will be permitted to mound excess earth over the trench to a maximum depth of 12 inches above the original ground surface or finished grade where the trench is located in unimproved property. Wasting of excess excavated material will not be permitted within any road ROW. All material within the construction limits shall be placed so that natural drainage is maintained and the surface shall be graded to a smooth and uniform appearance. The disposal of waste and excess excavating materials, including hauling, handling, grading, and surfacing shall be subsidiary obligation of the contractor and no separate payment will be made. Therefore, the cost of such work shall be included in the Contract Unit Price for installation of water pipe.

e. Dewatering:

- i. The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches and dikes and shall perform all pumping and other work necessary to divert or remove rainfall and other accumulations of surface water from the excavations. The diversion and removal of surface

water performed in a manner that will prevent the accumulation of water behind temporary structures or at any other locations within the construction area where it may be detrimental. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hoses, piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least one foot below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of one foot below the lowest excavation subgrade made until the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures.

- ii. Where groundwater is encountered, the Contractor shall make the effort necessary to secure a dry trench bottom before laying pipe. In sandy and in other suitable type soils, dewatering shall be done by well pointing. If, in the opinion of the Engineer, the Contractor has failed to obtain an absolutely dry trench bottom by insufficient use of all known methods of trench dewatering, the Engineer may order the Contractor to excavate below grade and place not less than 6 inches of graded crushed stone fill material over the trench bottom to form trench drains to suitably located sumps and to remove the water by bailing or pumping. The graded crushed stone fill material shall be placed at the Contractor's own expense and shall be of such depth that there shall be not water in bell holes at the time of coupling pipe. All costs of equipment, labor, and materials required for dewatering shall be included in the bid price.

f. Bedding:

- i. The Contractor shall satisfactorily shape the trench area (to specified line, grade and cross section) to receive bedding material. The bottom of the trench shall be undisturbed soil. Should the Contractor over excavate the trench without direction from the Engineer, the trench shall be brought up to grade with select backfill and compacted to at least 90% of maximum laboratory density as measured by AASHTO T 99. Such additional work and materials for over excavation without direction of the Engineer shall be at the expense of the Contractor.
- ii. Holes for the bells shall be provided at each joint in the subgrade or in the granular fill bedding material as required. The holes shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the material. The Contractor shall install the proper bedding for the respective type of pipe and depth of installation as shown in the details and schedules on the plans. When depths vary in a particular manhole run, the Contractor shall change bedding systems in accordance with the depth installation requirements.

- iii. Stabilization Materials: When the subgrade is found to be unstable or to include ashes, refuse, organic material, or other unsuitable material, the Engineer may direct that the subgrade be over excavated to remove such material. The depths of over excavation shall be as directed by the Engineer. Stabilization material shall be placed into the over excavated area of the trench and shall be paid for in accordance with these specifications. Stabilization shall be compacted to at least 90% of maximum laboratory density in six inch lifts.
- iv. Bedding Materials:
 - (1) As detailed in the plans, bedding material shall be placed to the specified depth below the pipe and tamped to a minimum of 90% of maximum laboratory density as determined in accordance with AASHTO T 99. Following placement of pipe, additional bedding material shall be placed and consolidated under the haunches of the pipe. Special tools shall be required to work the material into place and leave no voids beneath the pipe. The bedding material shall be tamped along the spring line (or along the top of the bedding material as indicated) of the pipe to sufficiently compact the material insofar as practical.
 - (2) The Engineer may direct additional moisture be added to the bedding material to aid in the compaction effort. Mechanical tampers may be employed to aid the process depending on the particular bedding required, additional bedding shall be added and tamped to a minimum of 90% of maximum laboratory density, with AASHTO T-99.
- v. Select Backfill: Select backfill shall be placed in 6 inch lifts and tamped to a minimum laboratory density with AASHTO T-99. Overall depth of the select backfill shall be as directed by the Engineer.
- vi. Normal Condition Bedding: Under normal conditions the trench bottom shall be undisturbed earth shaped to the specified line, grad, and cross section with proper bell holes at each joint to insure that pipe barrel lies flat on trench bottom. The bedding material will be selected native materials excavated from the trench and placed in two lifts. The first lift being placed up to the spring line of the pipe and extending out to the trench walls and hand tamped to a minimum of 90% of maximum laboratory density. Special care shall be used in placing and tamping bedding to insure no voids under the haunches of the pipe. The second lift shall extend to approximately 6" above pipe (Material permitting) and hand tamped to 90% density.
- g. Backfilling: Upon completion of placement of select material the excavated materials shall be immediately placed back into the trench. Specific requirements are:

- i. Backfill requirements for road crossings, parking lots, driveways, and sidewalks shall be in accordance with Technical Specifications
 - ii. Backfill requirements for unimproved areas (pastures, wooded areas) shall consist of placement and shaping of the soil in such a manner as to allow maximum natural consolidation. No compaction of the general backfill in the unimproved areas will be required, except that caused by conventional shaping equipment.
 - iii. No debris shall be used as backfill which has a volume in excess of one-half of one cubic foot or weight excess of 75 pounds.
- h. Sheeting Removal: Wooden sheeting or other thick sheeting or shoring members which have been driven or otherwise placed along the trench walls to an elevation below the spring line of the pipe shall be cut off at the spring line or higher and left in place.
- i. Grading and Grassing: Final grading and grassing shall be in accordance with Technical Specifications.
- j. PIPE HANDLING AND STORAGE: Pipe shall be handled, staked, and stored in accordance with manufacturer's printed literature. The Contractor shall provide security as required to prevent damage by vandals. PVC pipe shall be shaded from sunlight for extended lengths of time. Pipe damaged during storage and handling shall be rejected.
- k. PIPE LAYING:
- i. Each pipe shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the water shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. Trenches shall be kept free of water and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At times when work is not in progress, open ends of pipe and fittings shall be securely and satisfactorily closed so that no trench water, earth, or other substance will enter the pipe or fittings.
 - ii. The water main shall maintain a minimum of 30 inches of cover at all times.
 - iii. Pipe laying shall be performed in such a manner that no foreign material enters the pipe. The Engineer may require that before lowering pipe, heavy canvas bags be placed over each end, and left in place until joints are ready to

be made. If water is in the trench, the seals shall remain in place until the trench is pumped completely dry. If conditions are unsuitable, no pipe shall be laid until satisfactory laying conditions are obtained in accordance with the above specified requirements.

I. PIPE JOINTING: Piping shall be jointed in accordance with the manufacturer's printed recommendations. Gaskets shall be firmly set within the bells and grooves as required. The manufacturer's recommended lubricant or an approved equal shall be applied for slip type joints.

i. Ductile Iron Pipe Joint Construction: The installation and jointing of ductile iron pipe shall generally conform to the applicable provisions of AWWA Standard Specifications C-600 for pipe laying.

ii. Where mechanical joint pipe is used, the surfaces which come in contact with the gasket shall be thoroughly brushed with a wire brush just prior to assembly. The gasket should be brushed with soapy water prior to installation to remove loose dirt and to lubricate gasket as it is forced into its retaining space.

iii. When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly. The bolts should be partially tightened; the bottom bolt first, then the top; next the bolts on either side; and last, the remaining bolts. Overstressing of bolts to compensate for poor installation will not be permitted. Bolt torque shall be in accordance with manufacturer's specifications.

iv. All joints of whatever type shall be completely water tight after being subjected to the required tests.

m. BORINGS: Borings shall be accomplished in accordance with Mississippi State Highway Department Standards. The contractor shall provide all necessary sheeting, bracing, cribbing, supports and appurtenances to insure the proper line and grade throughout the entire length of the crossing.

i. Casing Pipe: Casing Pipe shall be installed as indicated on the Contract Drawings. Joints shall be completely welded to provide structural integrity and shall be watertight.

ii. Carrier Pipe: Carrier pipe may be any of the allowed options of piping. However, the piping and joints shall be capable of withstanding the stress exerted by pushing the pipe within the casing.

iii. Carrier Pipe Supports: Supports for the carrier pipe shall be as recommended by the manufacturer for such installation. Supports shall be spaced to

adequately support the piping under all conditions.

- iv. Casing Seal: The annulus between the casing and carrier pipe shall be sealed at each end by installing WMSON Type U end seals, as manufactured by T.D. Williamson, Inc. Tulsa, Oklahoma, or equal, in accordance with the instructions of the manufacturer of the seals.

- 6. SEPARATION of WATER and SEWER MAINS: The water and sewer specifications should state that the water line be constructed no less than 10 feet horizontally and 18" vertically with water line over sewer line. If those conditions cannot be met then they will be decided on a case by case basis.

7. TESTING

a. Ductile Iron Pipe:

- i. Field Inspection: The Engineer shall perform visual inspection of the material prior to placement by the Contractor. The Engineer may make non-destructive tests to determine the soundness of the pipe. The Contractor shall assist the Engineer in handling and moving the pipe as required.
- ii. Material Test: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittals. No other material test shall be required.

- b. Steel Casing Pipe: Material test shall be included as part of the submittal. No other material test shall be required.

c. Compaction Tests:

- i. Compaction tests shall be performed in accordance with AASHTO T 191 or ASTM D 2922. Maximum compaction shall be determined in accordance with AASHTO T 99.
- ii. Compaction tests for water pipe related work shall not be less than as follows:

NUMBER of COMPACTION TESTS AASHTO T-99, AASHTO T-191, or ASTM D 2922		
Stabilization Material	1	One per 100 C.Y.
Bedding Material	2	One per 600 L.F.
Tampered Backfill	2	One per 600 L.F.

d. Hydrostatic Testing:

- i. After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 times the working pressure at the point of testing and not less than 1.25 times the working pressure along the test section, for a minimum of 2 hours.
- ii. And all test shall be in accordance with AWWA Standard C600-82, Section 4.
- iii. Allowable leakage shall be no more than that determined by the following formula:

$$L = \frac{SD\sqrt{P}}{133,200}$$

- iv. In which L is the allowable leakage in gallons per hour; S is the length of pipe tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test in pounds per square inch.
- v. These tests are to be made at the Contractor's expense and he is to provide all necessary fittings, equipment, appliances and any other necessary items to conduct the tests in a manner satisfactory to the ENGINEER. All costs incidental to conducting these tests are to be included in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore. Record of testing is to be furnished to the OWNER.

8. CLEANING AND STERILIZING:

- a. Before each section of work is placed in service, it shall be thoroughly flushed to remove any dirt or other foreign material from inside the lines; and the inside of the lines shall be sterilized by pumping into and through them a solution of chlorine of 50mg/l for 24 hours in such manner as to meet the requirements of the State Board of Health.
- b. At least two (2) samples of chlorine free water, taken from each section shall be submitted to the State Board of Health for examination to determine if the system is free from organisms of the Coli-Aerogenes group. If such samples are not negative from organisms of the Coli-Aerogenes group, the system shall be disinfected and reinfected in a manner meeting the requirements of the State Board of Health, until the system is freed of contamination.
- c. All water mains will be flushed, chlorinated and rechlorinated until two (2)

consecutive negative water samples are obtained by the Local Health Department. The samples shall be collected by the Certified Operator of the system or the Professional Engineer of the project.

d. The CONTRACTOR shall be responsible for the conduct of all of the above defined activities, and any and all costs incident thereto shall be included in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore.

9. WATER SERVICE

a. Service pipe shall be $\frac{3}{4}$ " Polyethylene Plastic tubing meeting the following specifications:

1. 200 PSI and complying with AWWA standards when tested by methods ASTM 1599, copper tube size (O.D.) farmable for use with standard heavy duty waterworks brass flare fittings.

2. Tubing shall comply with the standards and bear the seal of the National Sanitary Foundation.

3. All connections and fittings shall be Ford brand.

10. TRACER WIRE

a. Materials

1. General

i. All trace wire and trace wire products shall be domestically manufactured in the U.S.A.

ii. All trace wire shall have HDPE insulation intended for direct bury, color coated per APWA standard for the specific utility being marked, green for Sewer.

2. Trace wire

- i. Open Trench - Trace wire shall be #12 AWG Copper Clad Steel, High Strength with minimum 450 lb. break load, with minimum 30 mil HDPE insulation thickness.**
- ii. Directional Drilling/Boring - Trace wire shall be #12 AWG Copper Clad Steel, Extra High Strength with minimum 1,150 lb. break load, with minimum 30 mil HDPE insulation thickness.**
- iii. Pipe Bursting/Slip Lining - Trace wire shall be 7 x 7 Stranded Copper Clad Steel, Extreme Strength with 4,700 lb. break load, with minimum 50 mil HDPE insulation thickness.**

3. Connectors

- i. All mainline trace wires must be interconnected in intersections, at mainline tees and mainline crosses. At tees, the three wires shall be joined using a single 3-way lockable connector. At Crosses, the four wires shall be joined using a 4-way connector. Use of two 3-way connectors with a short jumper wire between them is an acceptable alternative.
- ii. Direct bury wire connectors – shall include 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon filled to seal out moisture and corrosion, and shall be installed in a manner so as to prevent any uninsulated wire exposure.
- iii. Non locking friction fit, twist on or taped connectors are prohibited.

4. Termination/Access

- i. All trace wire termination points must utilize an approved trace wire access box (above ground access box or grade level/in-ground access box as applicable), specifically manufactured for this purpose.
- ii. All grade level/in-ground access boxes shall be appropriately identified with “water” cast into the cap and be color coded.
- iii. A minimum of 2 ft. of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
- iv. All trace wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the trace wire connection and the terminal for the grounding anode wire connection.
- v. Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.
- vi. Service Laterals - Trace wire must terminate at an approved grade level/inground trace wire access box, located at the edge of the road right-of-way, and out of the roadway.
- vii. Hydrants – Trace wire must terminate at an approved above-ground trace wire access box, properly affixed to the hydrant grade flange. (affixing with tape or plastic ties shall not be acceptable)

- viii. Long-runs, in excess of 500 linear feet without service laterals or hydrants
 - Trace wire access must be provided utilizing an approved grade level/in-ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway. The grade level/in-ground trace wire access box shall be delineated using a minimum 48" polyethylene marker post, color coded per APWA standard for the specific utility being marked.

5. Grounding

- i. Trace wire must be properly grounded at all dead ends/stubs
- ii. Grounding of trace wire shall be achieved by use of a drive-in magnesium grounding anode rod with a minimum of 20ft of #12 red HDPE insulated copper clad steel wire connected to anode (minimum 1.5 lb.) specifically manufactured for this purpose, and buried at the same elevation as the utility.
- iii. When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance.
- iv. When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with a mainline to lateral lug connector.
- v. Where the anode wire will be connected to a trace wire access box, a minimum of 2 ft. of excess/slack wire is required after meeting final elevation.

b. Installation

1. General

- i. Trace wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512Hz) signal for distances in excess of 1,000 linear feet, and without distortion of signal caused by multiple wires being installed in close proximity to one another.
- ii. Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.

- iii. Any damage occurring during installation of the trace wire must be immediately repaired by removing the damaged wire, and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.
- iv. Trace wire shall be installed at the bottom half of the pipe and secured (taped/tied) at 5' intervals.
- v. Trace wire must be properly grounded as specified.
- vi. Trace wire on all service laterals/stubs must terminate at an approved trace wire access box located directly above the utility, at the edge of the road right-of-way, but out of the roadway. (See Trace wire Termination/Access)
- vii. At all mainline dead-ends, trace wire shall go to ground using an approved connection to a drive-in magnesium grounding anode rod, buried at the same depth as the trace wire. (See Grounding)
- viii. Mainline trace wire shall not be connected to existing conductive pipes. Treat as a mainline deadend, ground using an approved waterproof connection to a grounding anode buried at the same depth as the trace wire.
- ix. All service lateral trace wires shall be a single wire, connected to the mainline trace wire using a mainline to lateral lug connector, installed without cutting/splicing the mainline trace wire.
- x. In occurrences where an existing trace wire is encountered on an existing utility that is being extended or tied into, the new trace wire and existing trace wire shall be connected using approved splice connectors, and shall be properly grounded at the splice location as specified.

2. Water System

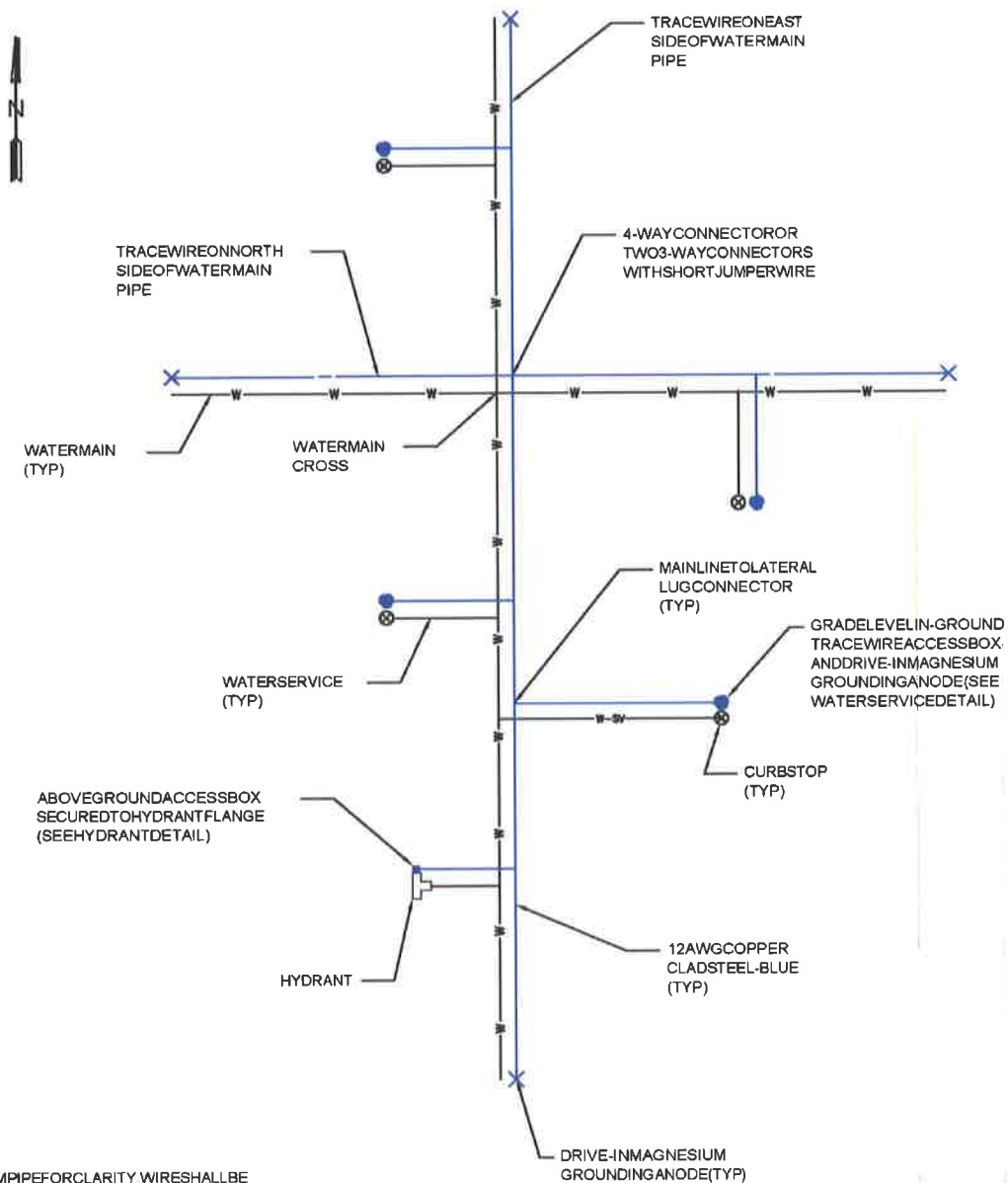
- i. A mainline trace wire must be installed, with all service lateral trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point.
- ii. Lay mainline trace wire continuously, by-passing around the outside of valves and fittings on the North or East side.
- iii. Trace wire on all water service laterals must terminate at an approved trace wire access box color coded blue and located directly above the service lateral at the edge of road right of way.
- iv. Above-ground tracer wire access boxes will be installed on all fire hydrants.
- v. All conductive and non-conductive service lines shall include tracer wire.

c. Prohibited Products and Methods

1. The following products and methods shall not be allowed or acceptable
 - i. Uninsulated trace wire
 - ii. Trace wire insulations other than HDPE
 - iii. Trace wires not domestically manufactured
 - iv. Non locking, friction fit, twist on or taped connectors
 - v. Brass or copper ground rods
 - vi. Wire connections utilizing taping or spray-on waterproofing
 - vii. Looped wire or continuous wire installations, that has multiple wires laid side-by-side or in close proximity to one another
 - viii. Trace wire wrapped around the corresponding utility
 - ix. Brass fittings with trace wire connection lugs
 - x. Wire terminations within the roadway, i.e. in valve boxes, cleanouts, manholes, etc.
 - xi. Connecting trace wire to existing conductive utilities

d. Testing

1. All new trace wire installations shall be located using typical low frequency (512Hz) line tracing equipment, witnessed by the contractor, engineer and facility owner as applicable, prior to acceptance of ownership.
2. This verification shall be performed upon completion of rough grading and again prior to final acceptance of the project.
3. Continuity testing in lieu of actual line tracing shall not be accepted.

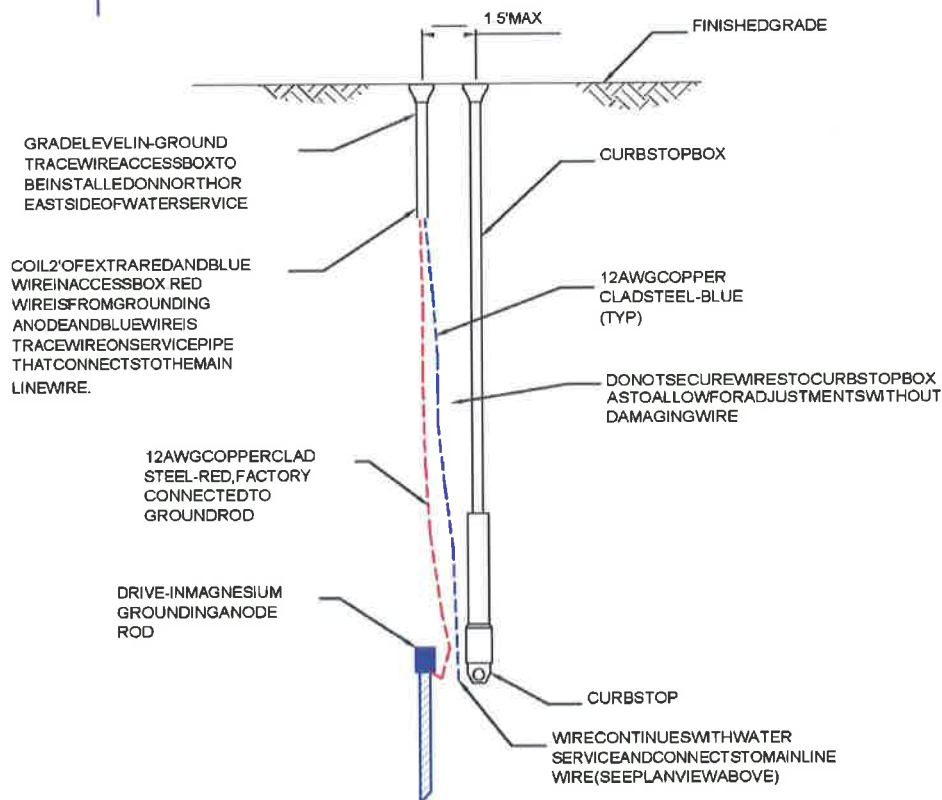
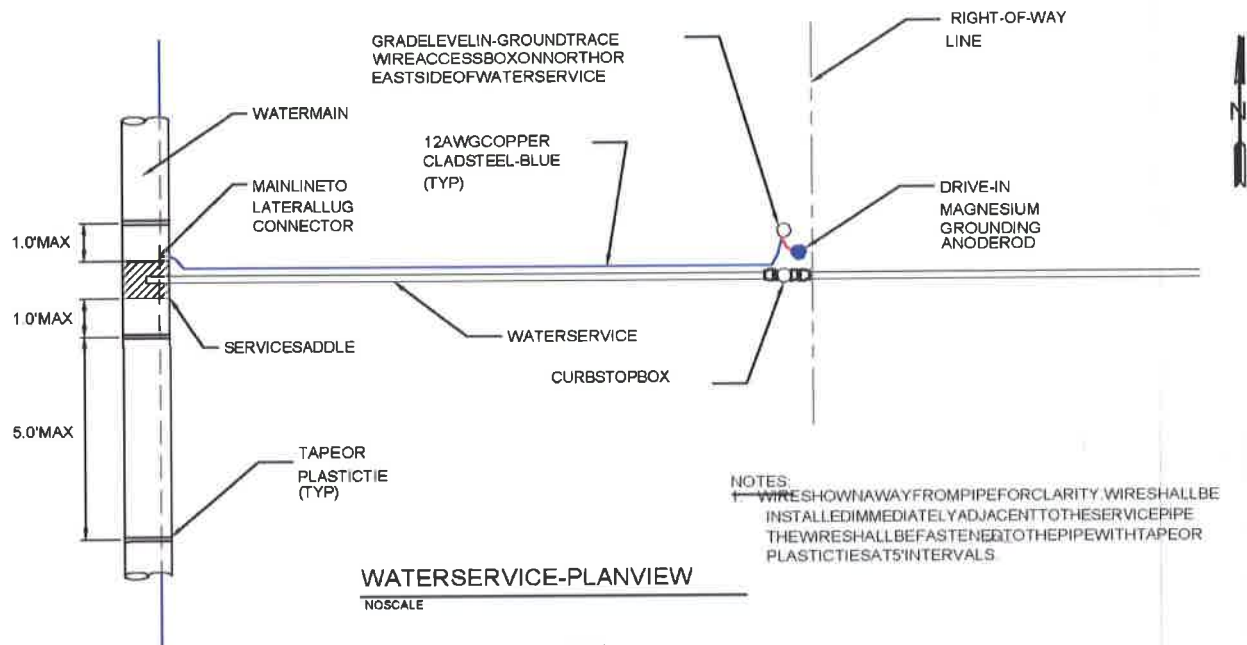


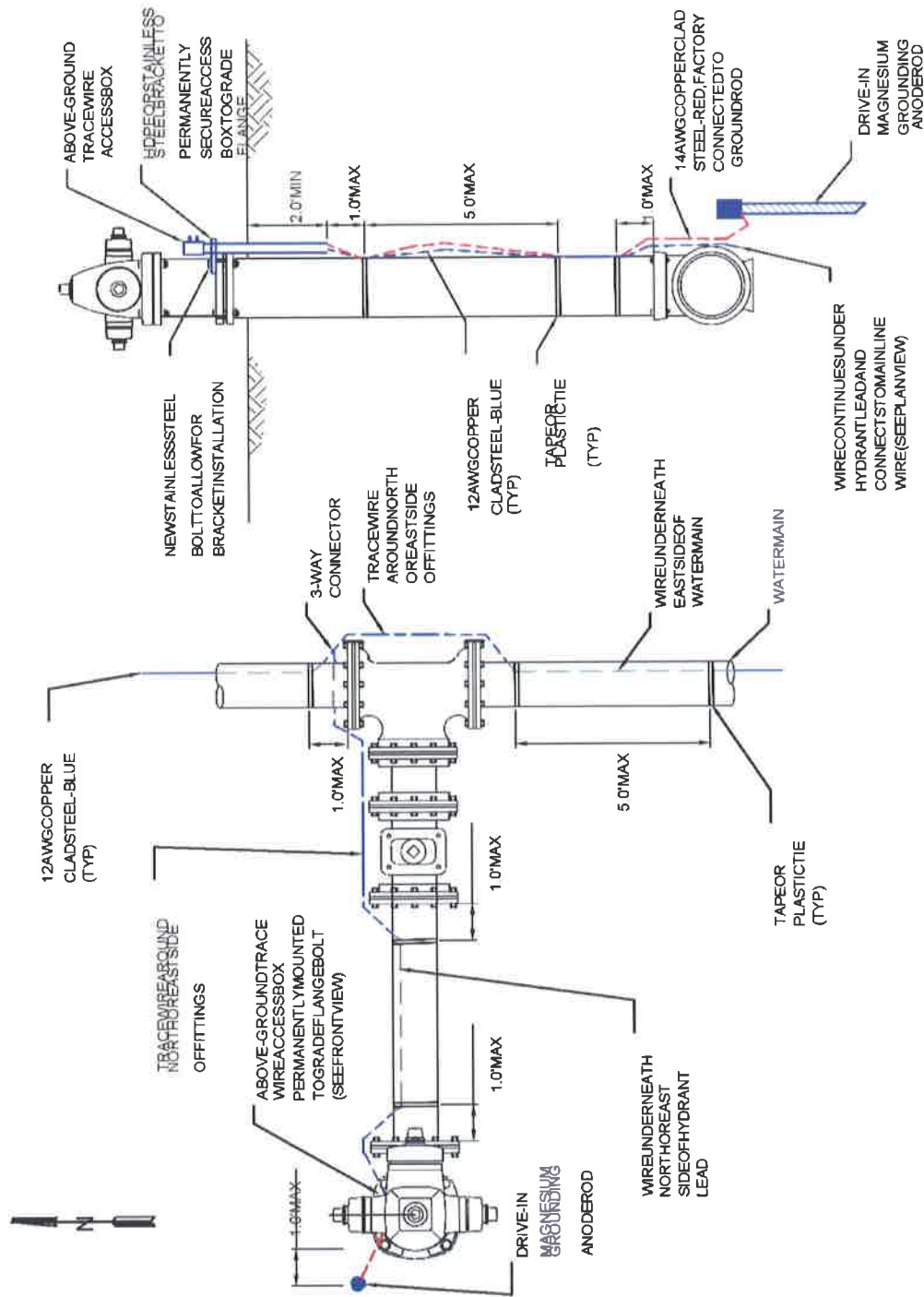
NOTES:

1. WIRES SHOWN AWAY FROM PIPE FOR CLARITY. WIRES SHALL BE INSTALLED ON THE BOTTOM SIDE OF THE PIPE BELOW THE SPRING LINE. THE WIRES SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS.

TRACE WIRE PLAN (WATER)

NO SCALE





HYDRANT-SECTION VIEW

NO SCALE

HYDRANT-PLAN VIEW

NO SCALE



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-695

File ID: 2017-695

Type: Regular Agenda Item

Status: Agenda Ready

Version: 1

Reference:

In Control: City Council

Requester: Sharon Waits

File Created: 08/30/2017

Brief Title: Authorize execution of contract for the Comprehensive Water Improvements Phase II Project.

Final Action: 09/19/2017

Minute Book Number: MB2017-403

Title:

Authorize Mayor to execute four (4) copies of contract with C.B. Developers for the Comprehensive Water Improvements Phase II - Palmers Crossing and Irene Chapel Project.

Notes: Removed

Agenda Date: 09/19/2017

Indexes:

Agenda Number: V.-16

Sponsors:

Enactment Date:

Attachments: CB Developers Contract - Palmers Crossing and Irene Chapel Project, executed CB Developers Contract - Palmers Crossing and Irene Chapel Project

Enactment Number:

Contact:

Meeting Date: 09/19/2017

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1		09/05/2017					
1	City Council	09/19/2017	Authorize				Pass
Action Text: A MOTION was made by Council Vice President Dryden and seconded by Council Member George to Authorize Mayor to execute four (4) copies of contract with C.B. Developers for the Comprehensive Water Improvements Phase II - Palmers Crossing and Irene Chapel Project.							
There being no discussion, the Motion received the affirmative vote of the Council as follows:							
Yeas: 5 - George, Delgado, Carroll, Dryden and Brown							
Nays: 0							

Yea: 5 Council Member George
Council Member Delgado
Council President Carroll
Council Vice President Dryden
Council Member Brown

Text of Legislative File 2017-695

Title

Authorize Mayor to execute four (4) copies of contract with C.B. Developers for the Comprehensive Water Improvements Phase II - Palmers Crossing and Irene Chapel Project.

Summary

Authorize execution of contract for the Comprehensive Water Improvements Phase II Project.

SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

**COMPREHENSIVE WATER IMPROVEMENTS PHASE II
PALMERS CROSSING AND IRENE CHAPEL**

FOR THE

**CITY OF HATTIESBURG
FORREST COUNTY
MISSISSIPPI**

JANUARY 2017



PREPARED BY:

**SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS
301 SECOND AVENUE
HATTIESBURG, MISSISSIPPI
(601) 544-1821**

ADDENDUM No. 6
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL
AREAS
CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

- CHANGE No. 1 -** The Proposal for the project as contained in the contract documents shall be voided. The attached Proposal-Addendum No. 6 shall be inserted and used for preparation of bids for the project.
- CHANGE No. 2 -** Plan sheets 10, 11, 15, 20, 23, 24, 25, and 26 should be replaced with the attached plan sheets.
- CHANGE No. 3 -** HDPE Pipe shall be supplied via Ductile Iron Pipe Size (DIPS).
- CHANGE No. 4 -** Attached is a preliminarily approved permit from Canadian National Railway Company (P-10911). The City of Hattiesburg will pay the charge noted in the permit of \$4,800.00. The contractor shall be responsible for payment of all insurance, bonding, flagging, etc. as noted in the permit.
- CHANGE No. 5 -** Attached are preliminarily approved permits from Kansas City Southern Railway Company (17-3248, 17-3249 and 17-3250). The City of Hattiesburg will pay the any permit charges required for the permit. The contractor shall be responsible for payment of all insurance, bonding, flagging, etc. as noted in the permit or attached to this addendum. A single policy will be required for insurance and bonding which will cover all three crossing permits.
- CHANGE No. 6 -** It is the responsibility of the contractor to coordinate flagging services with the appropriate railroad officials. The contractor shall be responsible for all fees associated with flagging services.
- CHANGE No. 7 -** Item No. 31 – “6” Fire Suppression System Connection” shall be used as necessary on the project as required to connect an existing fire suppression system.
- CHANGE No. 8 -** Specifications for service water line construction required as part of this contract shall be as follows: Service pipe shall be ¾" Polyethylene Plastic tubing meeting the following specifications, 200 PSI and complying with AWWA standards when tested by methods ASTM 1599, copper tube size (O.D.) flarable for use with standard heavy duty waterworks brass flare fittings. Tubing shall comply with the standards and bear the seal of the National Sanitary Foundation.

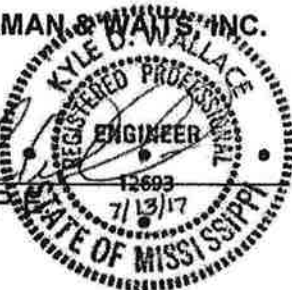
- CHANGE No. 9** – It shall be the contractor's responsibility to adequately address concerns of utility coordination prior to construction. This shall include but not limited to location of underground utilities. The contractor shall be required to locate all existing water lines.
- CHANGE No. 10** - Restrained pipe shall not be required on the project.
- CHANGE No. 11** - Post Indicator Valves shall not be part of the project.
- CHANGE No. 12** - Water meters shall be a Badger "Radio Read" and all fittings shall be Ford brand. Contractor shall provide all materials and labor to make a fully functioning water meter.
- CHANGE No. 13** - Corrosion protection will not be required on the project.
- CHANGE No. 14** - Item No. 37 – "Abandonment of Existing Water Lines with Flowable Fill" shall be used as directed by the engineer. Locations shall be generally located within railroad rights of way.

SHOWS, DEARMAN & WALLACE, INC.

CITY OF HATTIESBURG

by:

Kyle Wallace, P.E.



by:

Kermas Eaton, City Clerk

Dated this 13th day of July, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: L.B. Developers, Inc.

Signature: [Signature]

Title: P.M.

DEPUTY CLERK
CITY CLERK
BY

ADDENDUM NO. 6

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 180 calendar days thereafter. The undersigned further agrees that the unit bid price quoted includes all items of work required or necessary for the accomplishment of the projected work. BIDDERS agree to perform all the work described in the CONTRACT DOCUMENTS for the following unit bid prices:

Proposal					
Comprehensive Water Improvements - Phase II					
Palmers Crossing and Irene Chapel Areas - City of Hattiesburg					
Item	Description	Unit	Quantity	Unit Price	Extension
Water Pipe Items					
1	4" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	260	25.44	6614.40
2	6" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	280	23.74	6647.20
3	8" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	590	23.72	13994.80
4	12" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	27,000	31.08	839160.00
5	12" Class 350 Ductile Iron Water Pipe (Bored - No Casing)	Lin. Ft.	1,090	66.98	73008.20
6	16" 200 PSI, DR9, HDPE (Open Cut) (Incl. adapter fittings)	Lin. Ft.	780	111.27	86790.60
7	16" 200 PSI, DR9, HDPE (Direction Bore) (Incl. adapter fittings)	Lin. Ft.	460	133.85	61571.00
Casing Items					
8	18" Steel Casing, 0.25" WT (Open Cut)	Lin. Ft.	20	112.00	2240.00
9	14" Steel Casing, 0.25" WT (Bored)	Lin. Ft.	40	94.99	3799.60
10	18" Steel Casing, 0.25" WT (Bored)	Lin. Ft.	610	112.44	68588.40
11	20" Steel Casing, 0.375" WT (Bored - Railroad)	Lin. Ft.	740	295.72	218832.80

Connection Items					
12	Connection: Proposed 12" to Existing 12" (Straight Connection w/ fittings)	Each	2	1509.99	3019.98
13	Connection: Proposed 12" to Existing 12" (Hot Tap w/ Valve Assembly & other fittings)	Each	3	6603.33	19809.99
14	Connection: Proposed 12" to Proposed 12" (Tee & other fittings)	Each	5	1741.31	8706.55
15	Connection: Proposed 12" to Proposed 12" & 8" (Tee & other fittings)	Each	1	2191.77	2191.77
16	Connection: Proposed 12" to Proposed 8" (Tee & other fittings)	Each	2	1773.93	3447.86
17	Connection: Proposed 12" to Proposed 12" & Existing 8" & 6" (Tees & other fittings)	Each	1	3061.78	3061.78
18	Connection: Proposed 12" to Proposed 12" & Existing 4" (Tee & other fittings)	Each	2	2263.80	4527.60
19	Connection: Proposed 12" to Existing 6" (Tee & other fittings)	Each	10	1878.23	18782.30
20	Connection: Proposed 12" to Existing 6" & 4" (Tees & other fittings)	Each	1	2813.19	2813.19
21	Connection: Proposed 12" to Existing 6" & 4" (Cross & other fittings)	Each	1	3093.80	3093.80
22	Connection: Proposed 12" to Existing 4" (Tee & other fittings)	Each	12	2025.74	24308.88
23	Connection: Proposed 8" to Existing 12" (Hot Tap w/ Valve Assembly & other fittings)	Each	1	3660.35	3660.35
24	Connection: Proposed 8" to Existing 6" (Tee & other fittings)	Each	1	1702.56	1702.56
25	Connection: Proposed 8" to Existing 6" & 4" (Tees & other fittings)	Each	1	2657.87	2657.87
Valve Items					
26	4" Gate Valve	Each	9	684.95	6164.55
27	6" Gate Valve	Each	14	840.19	11762.66
28	8" Gate Valve	Each	4	1154.21	4616.84
29	12" Gate Valve	Each	66	2036.87	134433.42

	Fire Protection Items				
30	3 Way Fire Hydrant w/ Appurtenances (Incl. Tee, Valve, Hydrant, Brass Tag, Pipe, & other fittings)	Each	42	3708.92	1557 AA 455744.64
31	6" Fire Suppression System Connection (Incl. Tee, Valve, Pipe, Disconnection of Existing System, Connection to Existing Fire System, etc.)	Each	1	4146.85	4146.85
	Service Items				
32	Residential Service Tap (All Sizes) (Incl: Open Cut Service Tubing, Tapping Saddle, Corp Stop, etc)	Each	99	445.19	44073.81
33	Commercial Service Tap (All Sizes) (Incl: Open Cut Service Tubing, Tapping Saddle, Corp Stop, etc)	Each	17	1085.64	18455.88
34	Service Tubing (Bored) (All Sizes)	LF	1,585	4.13	6546.05
35	Residential Meter (Incl: Meter, Meter Box, City Fees, etc)	Each	15	550.23	8253.45
	Removal Items				
36	Removal of Fire Hydrant and Appurtenances	Each	24	409.36	9824.64
37	Abandonment of Exist. Water Lines with flowable Fill	LF	760	7.75	5890.00
38	Remove and Reset Existing Storm Sewer Culverts (All Sizes)	Lump Sum	1	4678.36	4678.36
	Miscellaneous Construction Items				
39	Select Fill Material (Class 9, Group C), LVM for Gravel Driveway Repair	CY	35	21.05	736.75
40	Asphalt Pavement Repair (All Depths)	TON	460	181.29	83393.40
41	Concrete Pavement Repair (All Depths)	SY	338	116.96	39532.48
42	Concrete Curb and Gutter Repair (Match Existing in kind)	LF	25	58.48	1462.00
43	Crushed Aggregate for Road Repair (Size 825)	Ton	151	58.48	8830.48
44	Temporary Erosion Control	Lump Sum	1	6432.75	6432.75

45	Grassing		Lump Sum	1	4678.36	4678.36
46	Maintenance of Traffic		Lump Sum	1	5847.95	5847.95
47	Mobilization		Lump Sum	1	5847.95	5847.95
			Project Total:		2,054,414.75	

Note: All materials and components shall be a product of the U.S.A.



www.cn.ca

Southern Region

CN
Joseph Wojcik
IC Track Design Technician
915 Belle Ave.
Joliet, IL. 60432

T 815-774-6414
F 815-774-6430

May 15, 2017

File P-10911

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403-1898

RE: 16" HDPE water line in a 20" steel casing
M. P. 92.49
Preparation fee \$750.00 paid
Charge \$4,800.00

Attached hereto in duplicate is agreement covering the above-described subject matter, which has been prepared pursuant to your request. Please have both copies executed and return to me for my further handling for execution on behalf of the Railroad Company. Acceptance of the agreement is not to be assumed until a fully executed copy has been returned.

Please note that payment of \$4,800.00 is to be made upon execution of the agreement. To avoid delay in our handling, the required remittance should be made with the return of the agreement.

This office shall receive 5 days notice, exclusive of weekends and holidays, before any work is performed in the vicinity of the track. Such notice shall only be accepted from the owner or their duly authorized agent. Once execution of the agreement is complete and you have submitted a completed flagging and cable request form, you must call Maryellen Carmody at 734-783-4533 to set up flagging and signal locate before any work. The Utility must prepay the railroad for all anticipated flagging and cable location costs, which are to be calculated pursuant to the Request for Flagging Services and Cable Location form.

Sincerely,

Joseph Wojcik
IC Track Design Technician

LICENSE FOR UNDERGROUND PIPELINES, CABLES AND CONDUITS

THIS AGREEMENT made in duplicate this 15th of May, 2017, between ILLINOIS CENTRAL RAILROAD COMPANY, party of the first part, hereinafter called the Railroad, and

File P-10911

City of Hattiesburg
P.O. 1898
Hattiesburg, MS. 309403-1898

Party or parties of the second part, hereinafter called the Licensee,

WITNESSETH:

1. In consideration of a one time fee of \$4,800.00 in hand paid by the Licensee to the Railroad, the receipt whereof is hereby acknowledged and the faithful performance by the Licensee of the covenants herein contained, the Railroad, insofar as it lawfully may, hereby grants to the Licensee license and permission to construct and maintain a 16" HDPE water line in a 20" steel casing (see attachment) (whether one or more pipes, cables or conduits hereinafter referred to as the "pipeline") across, along and underneath the property of the Railroad at M.P. 92.49 in Hattiesburg, MS, said pipeline being more particularly shown upon the exhibits hereto attached and made a part hereof, subject to the following conditions and specifications:
2. The license and permission herein granted to Licensee are subject and subordinate; however, to the rights in Railroad, its successors and assigns, its grantees, lessees and licensees, to construct, reconstruct, operate, use, maintain, repair and renew on, beneath or above the property covered hereby, any structures, improvements or facilities of similar or different character as are now or in the future may be located on, beneath or above said properties.
3. Licensee shall, except in emergencies, give not less than 72 hours written notice to Railroad of the day, hour and location that it proposes to undertake any construction or maintenance work and in the event of an emergency shall notify Railroad as soon as possible.

Licensee shall require each of its contractors and subcontractors to observe and conform to the conditions and requirements specified herein; and for the purposes of the safety, protective and indemnification provisions hereof, such contractors and subcontractors, their agents, servants and employees, and other persons on the Railroad property at the invitation of the Licensee, its contractors or subcontractors, shall be deemed the agents or employees of the Licensee.

4. Licensee shall, at no expense to Railroad, obtain all permits and approvals required to exercise this license and Licensee shall install, maintain and operate its facilities in accordance with all requirements of lawful public authority. Licensee shall be responsible for any taxes, assessments and charges made against the pipeline or other of Licensee's facilities on Railroad's property or the operation of any of them.
5. The pipeline shall be installed at least 10 feet below the tracks of the Railroad, measured from base of rail to top of pipeline or, if no tracks are located on the property, at least 3 feet below natural ground. Said pipeline shall be constructed of such material and in such a manner as will assure the safety of Railroad. Railroad's authorized representative shall have the right, but not the duty, to require certain materials or procedures to be used or to supervise the construction, maintenance, restoration or other work on Railroad's property. If in the opinion of Railroad's authorized representative casing of the pipeline is required at the time of installation or at any time subsequent thereto, Licensee shall promptly arrange for such casing at its own risk and expense.
6. If, in the opinion of the authorized representative of Railroad the work to be done by the Licensee pursuant to this agreement will make necessary or desirable any change in the Railroad's facilities, or those of the Railroad's tenants or licensees, on the Railroad's property, the Railroad shall have the right, but not the duty, to make such changes, the expense thereof to be borne by the Licensee.

Railroad shall have the right, but not the duty, to furnish flagging or other protection or to perform work to support its tracks or otherwise protect its property or facilities at any time, at Licensee's sole risk and expense.

7. Licensee agrees at any time, or from time to time, at its own risk and expense, upon request of the authorized representative of the Railroad, to make such change or changes as may be necessary in the opinion of said representative to accommodate any change or improvements which Railroad may desire to make in or upon its property. In case Licensee shall fail within thirty (30) days after notice from Railroad to make such change or changes, Railroad shall have the right, but not the duty, to make such change or changes, or remove Licensee's facilities from said property at the risk and expense of Licensee.

8. Licensee shall at its expense take such measures as may be necessary and adequate in connection with its property or the property of railroad to protect facilities of Railroad and those of others using Railroad's property from interference by induction, conduction, physical contact or otherwise attributable to the exercise by Licensee of the license granted to it.

In the event Railroad advises Licensee to take any action to protect Railroad, its facilities or facilities on Railroad's property, Licensee shall promptly take the indicated action, including, but not limited to, stopping the operation of the pipeline. If Licensee fails to do so, Railroad shall have the right, but not the duty, to perform on behalf of Licensee at the sole risk and expense of Licensee.

9. In the event Railroad elects to renew, replace, repair or alter any tracks or other facilities or to construct new facilities or to make other use of the property covered by this license, and in connection therewith requires the removal of any facilities placed by Licensee on Railroad's property or should any facilities of Licensee need renewal or repair, Licensee shall, within 30 days of receipt of notice, arrange for such removal, renewal or repair at Licensee's risk and expense. In the event removal is required, the facilities shall be relocated at such location on Railroad's property as is designated by Railroad, provided that Railroad's authorized representative determines that a location is reasonably available. Renewal or repair shall be to such condition as is indicated by Railroad's authorized representative. If Licensee fails to comply with the foregoing, Railroad shall have the right, but not the duty, to remove, renew or repair such facilities at the sole risk and expense of Licensee.
10. Cost and expense for work performed by the Railroad pursuant to this agreement shall consist of the direct cost of labor and material plus Railroad's standard additives in effect at the time the work is performed. All payments required of Licensee under this agreement shall be made promptly upon presentation of a bill.
11. Licensee, as a further consideration and as a condition without which this license would not have been granted, agrees to indemnify and save harmless Railroad, its officers, employees and agents and to assume all risk, responsibility and liability for death of, or injury to, any persons, including, but not limited to, officers, employees, agents, patrons and licensees of the parties hereto, and for loss, damage or injury to any property, including but not limited to, that belonging to the parties hereto (together with all liability for any expense, attorneys' fees and costs incurred or sustained by the Railroad, whether in defense of any such claims, demands, actions and causes of action or in the enforcements of the indemnification rights hereby conferred) arising from, growing out of, or in any manner or degree directly or indirectly caused by, attributable to, or resulting from the grant or exercise of this license or the construction, maintenance, repair,

renewal, alteration, change, relocation, existence, presence, use, operation, or removal of any structure incident thereto, or from any activity conducted on or occurrence originating on the area covered by the license regardless of the negligence of Railroad, its officers, employees and agents. Licensee further agrees to release and indemnify and save harmless Railroad, its officers, employees, agents, patrons or invitees from all liability to Licensee, its officers, employees, agents or patrons, resulting from railroad operations at or near the area in which the license is to be granted whether or not the death, injury or damage resulting therefrom may be due to the negligence of the Railroad, its officers, employees or agents or otherwise. At the election of Railroad, the Licensee, upon receipt of notice to that effect, shall assume or join in the defense of any claim based upon allegations purporting to bring said claim within the coverage of this section.

12. Licensee shall secure, and maintain in place so long as this agreement is in effect, Comprehensive General Liability Insurance (Occurrence Form) in an amount not less than \$5,000,000 per occurrence, with an aggregate of not less than \$10,000,000 per annual period. The policy must name Railroad and its parent company, Canadian National Railway Company, as additional insured's in the following form:

Illinois Central Railroad Company, and its Parent Corporation,
Canadian National Railway Company
17641 S Ashland Ave
Homewood, IL 60430

The policy must not contain any provisions excluding coverage for injury, loss or damage arising out of or resulting from (a) doing business on, near, or adjacent to railroad track or facilities, or (b) surface or subsurface pollution, contamination or seepage, or from handling, treatment, disposal or dumping of waste materials or substances. Before commencing work, Licensee shall deliver to Railroad a certificate of insurance evidencing the foregoing coverage's and true and complete copies of the policies described above. Each policy shall include a waiver by the insurer of any right of subrogation against any recovery by or on behalf of any insured. Each policy shall provide for not less than thirty days prior written notice to Railroad of cancellation of or any material change in that policy.

13. It is expressly understood Railroad does not warrant title to the premises and Licensee accepts the grant of privileges contained herein subject to all lawful outstanding existing liens and superior rights. Licensee agrees it shall not have to make any claim against Railroad for damages on account of any deficiency in title and agrees that in the event of failure or insufficiency of such title the sole remedy of Licensee shall be the right to return of the consideration paid in advance, provided for herein, or a proportionate part thereof in the event of a partial

deficiency or insufficiency of title. Licensee further agrees to indemnify and save harmless the Railroad and to assure all risk, responsibility and liability (including any expenses, attorneys' fees and costs incurred or sustained by Railroad) arising from, growing out of, or in any manner or degree directly or indirectly attributable to or resulting from any deficiency or insufficiency of its title affecting the right of the Railroad to make this grant.

14. This agreement shall continue in force indefinitely from and after the date hereof, subject, however, to the right of either party to terminate this agreement as to the entire pipeline and all of the facilities of Licensee, or any part thereof, at any time or from time to time, as it may require, upon giving the other party ninety (90) days notice in writing of its desire to terminate this agreement, and indicating in said notice the extent of said line and facilities to which such termination shall apply. When this agreement shall be terminated as to the entire line and all of the facilities of Licensee or as to any part thereof, Licensee within thirty (30) days after the expiration of the time stated in said notice, agrees at its own risk and expense to remove said facilities from the property of Railroad, or such portion thereof as Railroad shall require removed, and to restore the railroad premises to a neat and safe condition, and if Licensee shall fail to do so within said time, Railroad shall have the right, but not the duty, to remove and restore the same, at the risk and expense of Licensee. Nothing herein contained shall be construed as conferring any property right on Licensee.
15. In case Railroad shall at any time, or from time to time, require the removal of only a portion of said pipeline, this agreement shall continue in force and be applicable to the portion of portions of said pipeline and other facilities remaining from time to time until said entire pipeline has been removed and the rental shall be adjusted accordingly.
16. Nothing in this agreement shall be construed to place any responsibility on Railroad for the quality of the construction, maintenance or other work performed on behalf of Licensee hereunder or for the condition of any of Licensee's facilities.

Any approval given or supervision exercised by Railroad hereunder, or failure of Railroad to object to any work done, material used or method of construction, reconstruction or maintenance, shall not be construed to relieve Licensee of its obligations under this Agreement.

17. This Agreement shall not be binding on either party hereto until all parties have executed the space provide below.

18. This agreement shall be binding on the successors and assigns of the parties hereto, but no assignment hereof by the Licensee, its successors, legal representatives or assigns, shall be binding upon the Railroad without its written consent in each instance.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed in duplicate, the day and year first above written.

ILLINOIS CENTRAL RAILROAD COMPANY

By: _____

Arthur L. Spiros - Senior Manager, Business Development & Real Estate – Southern Region

CITY OF HATTIESBURG

By: _____

Name and Title

INITIAL NOTIFICATION OF INTENT TO CONSTRUCT PIPELINE CROSSING/ENCROACHMENT
 Complete this form and return it along with a non-refundable preparation fee of \$750 made out to CN.

DATE:

1. Owner/Applicant InformationName and Address: City of Hattiesburg P.O. Box 1898 Hattiesburg, MS 39403-1898Authorized Representative: Lamar Rutland, P.E. Title City EngineerPhone Number: (601) 545-4640 Fax Number _____ Email lrutland@hattiesburgms.com**2. Location Of Pipeline**
 Pipeline Location Mile Post: 68 92.49 plus 5.466 feet (if
 parallel) to Mile Post: _____ plus _____ feet
 At or Near Hattiesburg (Name of City, Town, Village)
3. Commodity to be transmitted in pipe line: Water
 (steam, air, water, gasoline or other petroleum products, chemical-specify: natural or artificial gas. If sewer, identify
 as to force or gravity line, sanitary, storm or chemical waste - specify)
4. Pipe Data

	CARRIER PIPE	CASING PIPE
A. Inside Diameter:	<u>14.222"</u>	<u>19"</u>
B. Outside Diameter:	<u>16"</u>	<u>20"</u>
C. Wall Thickness:	<u>1.778"</u>	<u>0.375"</u>
D. Pipe Material:	<u>HDPE</u>	<u>Steel</u>
E. Specification/Grade or class:	<u>DR-9</u>	<u>Class 350</u>
F. Min. Yield Point of Material	_____	<u>35 ksi</u>
G. Process of Manufacture	_____	_____
H. Name of Manufacturer	_____	_____
I. Type of Joint	<u>Heat Fusion</u>	<u>Welded</u>
J. Working Pressure	<u>200 psi</u>	<u>350 psi</u>
K. Maximum operating pressure in pipeline:	<u>60</u> (psi by gauge)	
L. Length of Casing pipe:	<u>140</u> Feet	
M. Will casing pipe/uncased carrier pipe be cathodically protected:	<u>N/A</u>	
N. Hydrostatic pressure carrier pipe will be tested with before using	<u>150</u> (psi)	
O. Will casing pipe be vented? <u>N/A</u> Size: _____		
P. Will casing pipe/uncased carrier pipe have a protective coating? <u>N/A</u> Type: _____		
Q. Depth of top of casing or uncased carrier pipe below base of rail or top of ground <u>10.0</u> feet. (Minimum at closest point)		
R. Method of installing casing pipe /uncased carrier pipe <u>Dry Bore and Jack</u> (dry bore & jack, directional, tunnel, other - specify)		

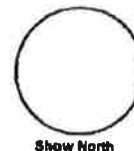
Attach to this application (3 copies) showing north arrow and a location sketch with crossings measured from the nearest railroad mile post and a profile sketch of actual situations showing relationship of tracks, contour of ground, the buried pipe, etc. Distance from each facility (encroachment) to the centerline of nearest road, crossing, bridge or other Railroad structures, must be clearly indicated. Right of way lines of railroad and labeled Street or highway, if involved, should also be shown.

RAILROAD PERMIT

Sheet No.: 1 of 3

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/02/17	BT		



GENERAL NOTES:

- RAILROAD REPRESENTATIVE AND FLAGMAN SHALL BE PRESENT DURING ALL CONSTRUCTION CROSSING THE RAILROAD.
- EXCAVATION SHALL NOT BE PERMITTED INSIDE RAILROAD RIGHT-OF-WAY.
- CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF THE RAILROADS PIPELINE OCCUPANCY SPECIFICATIONS.
- PIPELINE AND CROSSING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.
- BLASTING NOT PERMITTED.
- WHERE THE WATER MAIN IS WITHIN 10 FEET OF A SEWER MAIN HORIZONTALLY, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18" FROM THE TOP OF THE SEWER MAIN, UNLESS OTHERWISE NOTED.
- WORK FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES. THEREFORE, THE RISK OF A FAILURE OCCURRING DURING THE EXCAVATION REQUIRES THAT EXTREME CAUTION BE EXERCISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING WHAT BRACING, SHORING OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE EXCAVATION, THE PUBLIC THAT MAY BE ABOVE THE EXCAVATION, OR ANY STRUCTURE ADJACENT TO THE EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAWING AND CONSTRUCTING THE FACILITY SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT ITEMS.

ABBREVIATIONS LEGEND:

BLDG	- BUILDING
BTM	- BOTTOM
CL	- CENTERLINE
CN/IC	- CANADIAN NATIONAL ILLINOIS CENTRAL
CONC	- CONCRETE
DI	- DUCTILE IRON PIPE
EOP	- EDGE OF PAVEMENT
EXIST	- EXISTING
HDPE	- HIGH DENSITY POLYETHYLENE
LF	- LINEAR FEET
PL	- PROPERTY LINE
RCP	- REINFORCED CONCRETE PIPE
REQ'D	- REQUIRED
ROW	- RIGHT OF WAY
RR	- RAILROAD
W/	- WITH
XING	- CROSSING

LINETYPE & SYMBOLS LEGEND:

---	- CENTERLINE
+++++	- RAILROAD (EXIST)
---	- APPARENT MDOT RIGHT-OF-WAY
---o---	- FENCE (EXIST)
---P---P---P---	- OVERHEAD UTILITY LINES (EXIST)
---	- POLE GUY WIRE (EXIST)
---	- PROPERTY LINE (EXIST)
~~~~~	- TREE LINE (EXIST)
---	- DITCH (EXIST)
---	- UTILITY POLE (EXIST)
---w---w---w---	- WATER LINE (EXIST)
---	- WATER METER (EXIST)
---	- WATER VALVE (EXIST)
---	- WATER VALVE (REQ'D)
---	- WATER LINE (REQ'D)

**CANADIAN NATIONAL / ILLINOIS CENTRAL RAILROAD**  
**5,156' SOUTH OF MP #68**

# RAILROAD PERMIT

Sheet No.: 2 of 3

Permit No.: _____

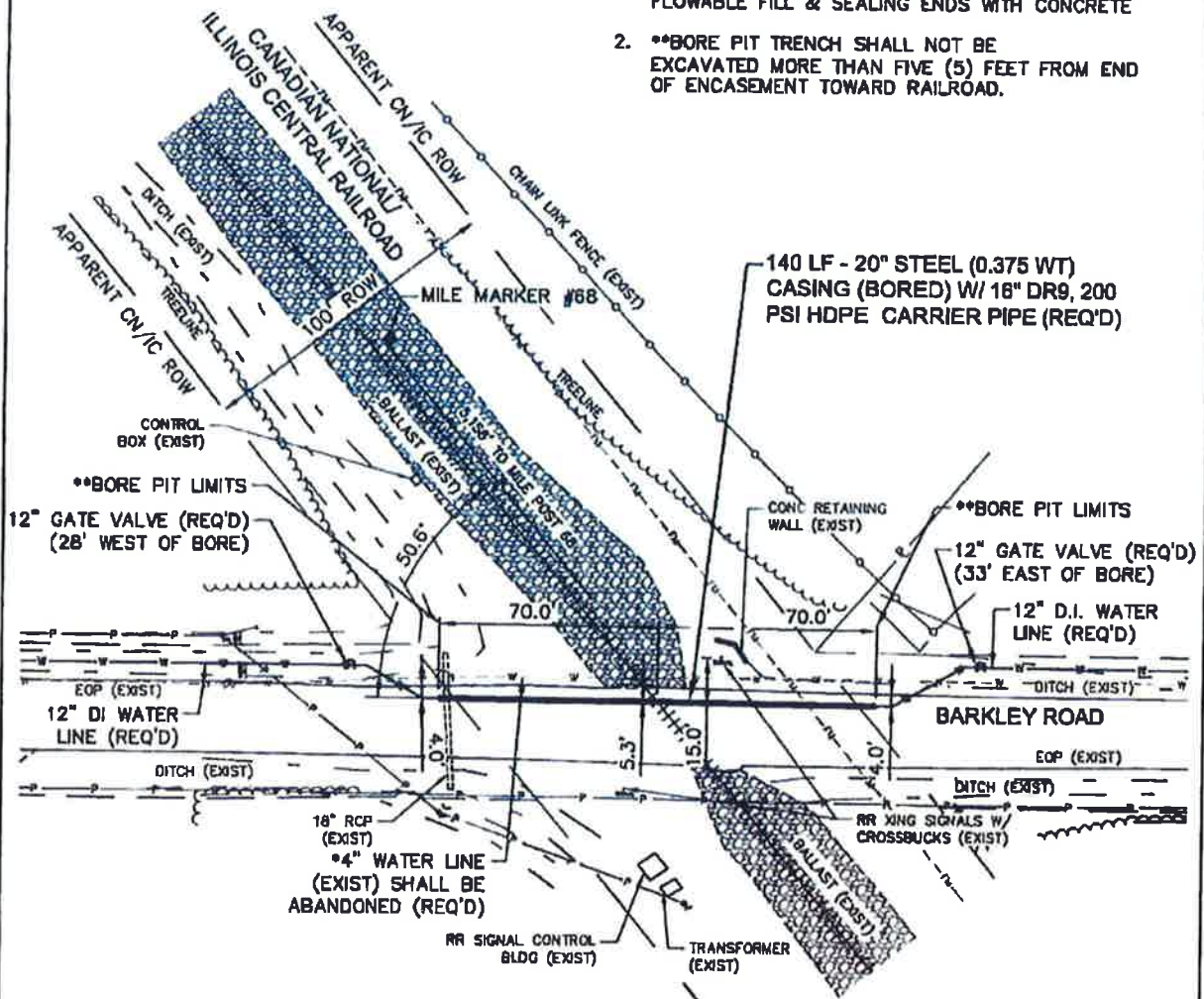
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/02/17	BT		



SCALE: 1" = 50'

## NOTES:

1. *140'± OF EXIST 4" WATER LINE (INSIDE RR ROW) SHALL BE ABANDONED IN PLACE, WHICH SHALL INCLUDE PUMPING EXIST WATER LINE WITH FLOWABLE FILL & SEALING ENDS WITH CONCRETE
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



**CANADIAN NATIONAL / ILLINOIS CENTRAL RAILROAD PIPE BORE:  
5,156' SOUTH OF MP #68**

# RAILROAD PERMIT

Sheet No.: 3 of 3

Permit No.:

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/02/17	BT		

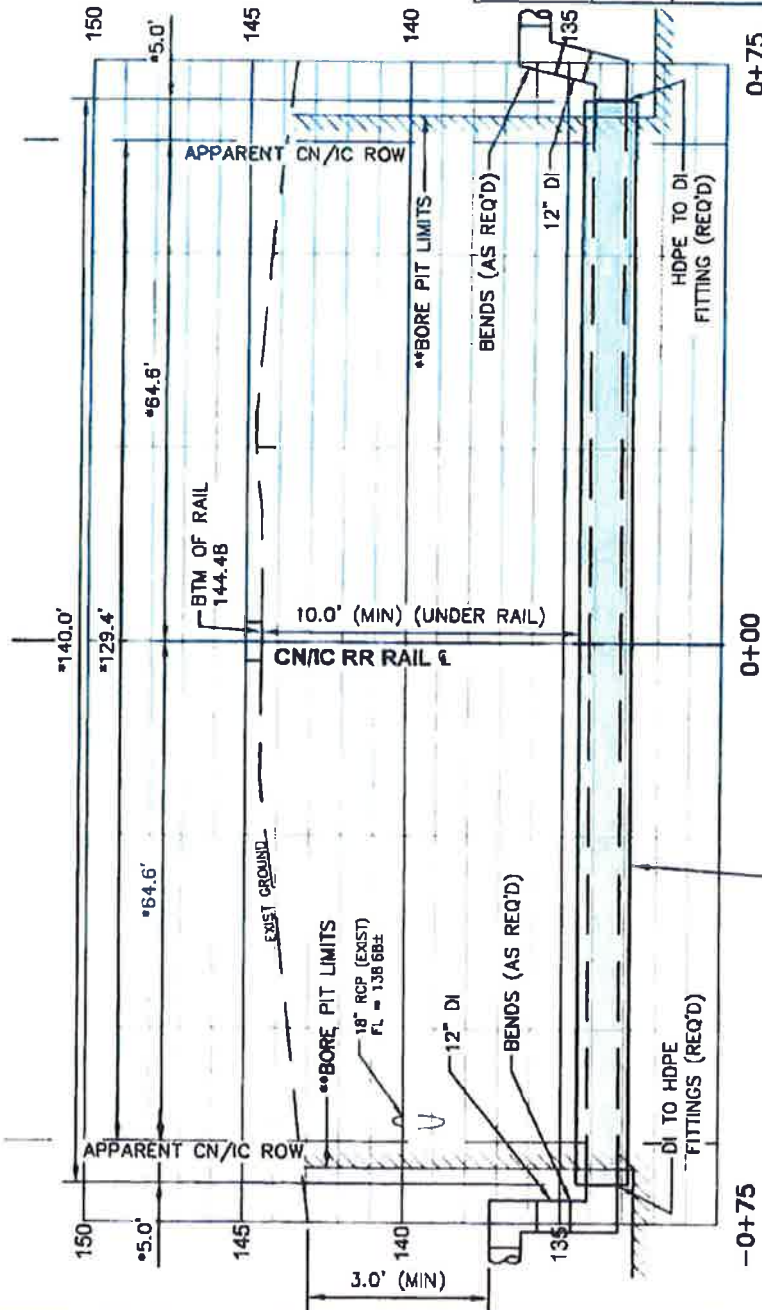


Show North

SCALE:  
HORIZ.: 1" = 20'  
VERT.: 1" = 5'

## NOTES:

1. *AS MEASURED ALONG SECTION
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



**CANADIAN NATIONAL /  
ILLINOIS CENTRAL  
RAILROAD PIPE BORE:  
5,156' SOUTH OF MP #68**



CN System Engineering

Josh Gordon  
Design & Construction  
Field Engineer  
2151 N. Mill Street.  
Jackson, MS 39202  
T 601-331-8724

May 11, 2017  
Mr. Joseph S. Wojcik  
Track Design Technician  
17641 S. Ashland Ave.  
Homewood, IL 60430-1345

**Subject: Utility P-10911 Hattiesburg, MS Beaumont Sub MP 92.49**

Mr. Wojcik,

CN Engineering Design & Construction has reviewed the request to Dry bore and jack 16" HDPE waterline in 20" casing under the Beaumont Sub MP 92.49. No objections at this time. Be certain to follow guidelines below.

- 1.) CN Utility Locate Required.
- 2.) CN's operations are not to be impaired or effected by any of the described work.
- 3.) A flagman, railroad representative is to be present during any and all work on, over, under or near railroad property.
- 4.) All employees of contractors not hired by CN that will work on, over, under or near CN property are required to have, at a minimum, safety certification with [www.contractororientation.com](http://www.contractororientation.com) and the railroad representative will be responsible for verifying and documenting said certifications.
- 5.) Survey is required before and after work to ensure no settlement during project.

Sincerely,

Josh Gordon  
Field Engineer

## **KCS Insurance Requirements are as follows:**

Show The Kansas City Southern Railway Company and its Affiliates, 427 W. 12th St., Kansas City, MO 64105 as a Certificate Holder for the following:

- Maintain **comprehensive general liability**, and contractual liability insurance with minimum limits of \$2,000,000 per occurrence, \$4,000,000 aggregate;
- **Auto liability** coverage in the amount of \$1,000,000 combined single limit;
- Provide or require minimum statutory **worker's compensation coverage** for all covered employees who are on KCS and its Affiliates property;
- No policy will be canceled or materially altered without first giving KCS and its Affiliates thirty (30) day's prior written notice;
- Commercial general liability policy will name The Kansas City Southern Railway Company and its Affiliates as additional insured;
- Will contain a waiver of subrogation in favor of KCS and its Affiliates.

Show The Kansas City Southern Railway Company and its Affiliates, 427 W. 12th St., Kansas City, MO 64105 as the Insured for the following:

- **Railroad Protective Liability Insurance** naming The Kansas City Southern Railway Company and its affiliates as insured - \$2,000,000 per occurrence, \$6,000,000 aggregate. To obtain this policy, please visit [www.123ocp.com](http://www.123ocp.com).

**PLEASE NOTE:** *****these are TWO separate policies, they cannot be combined on one form since KCS is the Certificate Holder on the Liability Insurance and the Insured on the Railroad Protective Liability insurance*****

## KCS Railway Construction Observation/Flagging Requirements

- When is construction observation and flagging required?
- Can the contractor self-perform construction observation and flagging services?
- Who is responsible for the cost of observation/flagging services?
- What is the cost of observation/flagging services?
- How do I arrange for observation/flagging services for my project?
- How soon can I start working on KCS ROW?

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### When is construction observation and flagging required?

Construction observation and flagging protection are required whenever people, vehicles, or equipment will encroach under, over or on KCS Right-of-Way, including when equipment has the range of possibility to encroach KCS Right-of-Way.

Construction observation must be performed by a KCS authorized **Construction Observer** and KCS certified **Flagman**. The **Construction Observer** ensures the installation meets the approved engineered specifications and serves as quality manager and liaison between the contractor and KCS. The **Flagman** provides protection to the general public, KCS personnel, equipment, and facilities from the work being performed and protection to contractors working within KCS Right-of-Way.

### Can the contractor self-perform construction observation and flagging services?

No. Observation and flagging services can only be performed by KCS authorized & certified construction observers and flagmen. Bartlett & West is the authorized KCS agent for providing these services.

### Who is responsible for the cost of construction observation/flagging services?

The permittee or the permittee's designated contractor is responsible for payment. Prepayment of services is required.

### What is the cost of construction observation/flagging services?

- Construction Observer daily rate is \$1,500 per day - 10 hour minimum. Hourly rate applies after 10 hours
- Flagman daily rate is \$1,000 per day - 10 hour minimum. Hourly rate applies after 10 hours
- Mobilization/Administrative Fee is \$2,000. Multiple mobilization fees could be charged if the project cannot be constructed on consecutive days and results in a return trip
- Cancellations require a minimum of 12 hours advance notice of the daily scheduled start time

### How do I arrange for observation/flagging services for my project?

- Complete **Section 1** of the attached **Prepay/Schedule Form**, prepay for estimated duration of services & execute the Bartlett & West Agreement. The **Prepayment Invoice** and **Bartlett & West Agreement** will be sent to you upon receipt of **Section 1**
- When your KCS Permit is fully executed you may submit **Section 2** of the **Prepay/Schedule Form** indicating your requested start date. Bartlett & West will be notified by **KCS & JLL** when your permit is approved.

### How soon can I start working on KCS ROW?

- A valid KCS Permit is required for scheduling a start date and before any activity can commence on KCS Right-of-Way
- It can take up to 15 business days to schedule services. Please plan accordingly
- In cases where KCS signal line locates are required additional time may be required

Bartlett & West is dedicated to providing you the information you need to complete the installation of your project in a safe environment and according to engineered specifications. Please contact our Service Specialist if you need further assistance.

[KSCCrossings@bartwest.com](mailto:KSCCrossings@bartwest.com) or 817-840-1567







THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



**Application for License to Install Pipeline or Wire Line Encroaching Over, Under or Parallel to KCS Tracks**

**Crossing - \$2,000 Processing Fee**

**Parallel - Call Sylvia Schmidt**

**Submit with non-refundable payable to:**

JLL

Attn.: Sylvia Schmidt

4300 Amon Carter Blvd., Suite 100

Fort Worth, Texas 76155

Phone: (817) 230-2688 or Melissa Leal at (817) 230-2614

Email: sylvia.schmidt@am.jll.com or melissa.leal@am.jll.com

17-3248

**1. Applicant Information:**

Legal Name of the Owner of the Utility: City of Hattiesburg

Attn.: Lamar Rutland, P.E.

Mailing Address: P.O. Box 1898

City, State, Zip: Hattiesburg, MS 39403-1898

Phone: (601) 545-4640

Cell: _____

Email to whom agreement is to be sent: lrutland@hattiesburgms.com

Check One: ☐ Individual

☐ Company

☐ Partnership

☐ Corporation

☒ Municipality

☐ Other (Specify) _____

Who to contact in the event of engineering questions: Kyle D. Wallace, P.E.

Phone: 9601) 544-1821

Cell: (601) 310-7818

Email: kyle@sd-w.com

Proposed Installation Date(s): June 2017

***If not constructed within one (1) year, an additional review fee may be charged.***

**2. Type of Encroachment (Crossing):**

Check All That Apply: ☐ Overhead ☒ Underground ☐ Parallel

**If Overhead**, vertical clearance is _____ (in feet and inches) a 28' minimum is required from top of rail to bottom of overhead crossing point (maximum sag at 212°).

Existing Poles ☐ Yes ☐ No Distance between poles/Distance from edge of nearest track: _____ / _____

**If Underground Crossing**, depth of casing/carrier pipe: ~~10' 0"~~ ^{12'} feet below base of rail and ~~6' 0"~~ ^{10'} feet below ground surface or bottom of ditches, whichever is deeper (if (a) casing is used: minimum 10' below base of rail and minimum 6' from natural ground surface or from bottom of ditches; (b) if casing is not used: minimum 10' below base of rail and minimum 10' from natural ground surface or from bottom of ditches).

**If Underground Parallel**, distance _____ measured at right angle from centerline of tracks to encroachment (parallel and minimum 25' feet away, then minimum 72" ground cover; parallel and greater than 25' away, then minimum ground cover of 60". If the request is within 50' of KCS right-of-way, utility line shall be at least 10' below the ground for the entire KCS right-of-way.

***If an existing crossing is to be abandoned, see Section D - Abandonment on the Specific Requirements sheet.***



THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



**3. Location:** (provide all the information you can and identify two (2) markers of location information that can independently allow for verification of the wire line location in Section 3 and Section 4).

If crossing, relation to centerline of KCS Tracks at KCS Mile Post 67 + 1,304 feet

If parallel, beginning KCS Mile Post _____ + _____, ending KCS Mile Post + _____

Railroad Subdivision GULFPORT

If spur, distance from point of switch _____ feet

In or near City/Town/Village Hattiesburg, Parish/County Forrest, State MS

Section 23 Township 4N Range 13W

**4. Other Distances:**

If install is near a KCS bridge or culvert, distance from inside face of back wall on nearest KCS

Bridge: _____ Bridge MP: _____

Distance from centerline of nearest road crossing measured perpendicular to the rail line: 4'

DOTD#: 305-283-V (<http://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/Crossing.aspx>)

Street Name: Barkley Road

**5. Angle of Crossing:**

66 ° 00 ' 00 " (if crossing track, not less than 45 degrees).

**6. Wire Line Commodity:**

☐ Telephone ☐ Power Line (Voltage _____) ☐ Other (Specify) _____

☐ Fiber Optic – If underground, number of innerducts within casing pipe _____

If an innerduct will be left spare or empty, clearly identify type of facility that will be installed within each innerduct.

See Section A – General on the Specific Requirements sheet for standards used.

If encroachment is an overhead wire line, proceed to the end of this application and provide signature.

**7. Pipeline Commodity:**

Commodity to be transmitted in the pipeline: Water

Transmitted by: ☐ Gravity ☒ Force ☐ Liquid  
☐ Gas ☐ Steam ☐ Other (Please Specify _____)

Type of Commodity: ☐ Flammable ☒ Non-Flammable ☐ Corrosive ☐ Toxic  
☐ Environmental Hazard

If hazardous, toxic or corrosive material, give details: _____

See Section A – General on the Specific Requirements sheet for standards used.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



**8. Pipe/Wire Information:**

	<u>Carrier Pipe</u>	<u>Casing Pipe</u>
Inside Diameter (nominal):	<u>16"</u>	<u>20"</u>
Wall Thickness:	<u>1.778"</u>	<u>0.375"</u>
Material:	<u>HDPE</u>	<u>Steel</u>
Minimum Yield Point of Material:	<u></u>	<u>35 ksi</u>
Type of Joint:	<u>Heat Fusion</u>	<u>Welded</u>
Maximum Operating Pressure in Pipeline:	<u>N/A</u>	<u>N/A</u>
Hydrostatic pressure at which carrier pipe will be tested before using:	<u>150 psi</u>	
Will carrier pipe have protective coating?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If so, please provide type: <u></u>	
Will carrier pipe be cathodically protected?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<i>Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.</i>		

**9. Casing Information:**

Length of casing pipe ~~120 LF~~ 240' (if casing pipe is vented, casing shall extend to right-of-way lines; if not vented, casing shall be a minimum 25' each side as measured at right angles to centerline of track).

Will casing pipe have protective coating? ☐ Yes ☒ No

If so, please provide type:

Will casing pipe be cathodically protected? ☐ Yes ☒ No

Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.

See Section B – Casing and Section E – Signage on the Specific Requirements sheet for additional requirements.

**10. Method of Installing Pipe/Wire:** Dry Bore and Jack

*Dry Bore and Jack, Conventional Dry Bore or Directional Drill up to 10". Wet boring or open cut trenching across tracks WILL NOT be permitted.*

See Section C – Boring and Section F – Shoring on the Specific Requirements sheet for additional requirements.

**11. Venting:**

Will casing pipe be vented? ☐ Yes ☒ No Diameter:  (minimum 2")

Number of Vents:  Vent Height above ground surface:  (minimum 4')

*Pipes carrying flammable contents must be vented. Vents are to be located at ends of casing off of KCS property and to be shown on drawing.*



THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



**12. Additional Fees:**

All excavations and installations on KCS's right-of-way will require construction observation, documentation and flagging by KCS or its authorized representative. Applicant or its contractor must contact Bartlett & West; KCS's authorized representative, a minimum of 10 days in advance of the scheduled construction date. Applicant will contract directly with Bartlett & West for the above services. The contact at Bartlett & West is Tom Faulkner at (817) 840-1562 or 785-215-2011, or by email at [thomas.faulkner@bartwest.com](mailto:thomas.faulkner@bartwest.com). All costs associated with construction observation and flagging are the sole responsibility of the applicant. The daily services fees are \$2,500 per day, which include flagging and construction observation services. In addition to the daily fee, a fee of \$2,000 per mobilization fee will be charged for each job. Prices are subject to change and can double for 24-hour construction projects. No agreement for crossing or encroachment will be executed by KCS until applicant has contracted with Bartlett & West for the construction observation and flagging.

**Each encroachment will also be subject to an annual or one-time fee, dependent on the type of installation and length of encroachment.** If you will need to know these amounts before application, contact Sylvia Schmidt at [sylvia.schmidt@am.jll.com](mailto:sylvia.schmidt@am.jll.com) or 817-230-2688.

Extreme caution is to be used in excavation due to the possible existence of other underground facilities along KCS's right-of-way. Any damage to existing facilities will be the sole responsibility of the applicant. In compliance with State law, prior to commencing work, the contractor shall notify appropriate State "One Call" service.

**13. Existing Agreement?** ☐ Yes ☒ No

*If replacing or repairing an existing line, a copy of the current permit agreement with KCS **must** be provided and accompany this application.*

**14. Was this service requested by KCS?** ☐ Yes ☒ No

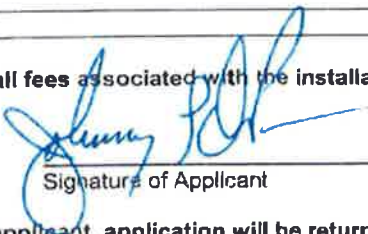
If yes, who requested? _____ Phone #: _____

Is this installation in conjunction with a track or track expansion project? ☐ Yes ☒ No

If yes, KCS contact name and phone number: _____ Phone#: _____

By signing below, **applicant agrees to pay all fees associated with the installation of this utility.**

Johnny L. DuPree, Mayor  
Name of Applicant

  
Signature of Applicant

2-21-17  
Date

**If application is not signed and dated by applicant, application will be returned.**

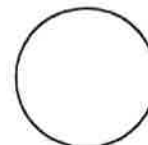


## RAILROAD PERMIT

Sheet No.: 1 of 4

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		



Show North

### GENERAL NOTES:

1. RAILROAD REPRESENTATIVE AND FLAGMAN SHALL BE PRESENT DURING ALL CONSTRUCTION CROSSING THE RAILROAD.
2. EXCAVATION SHALL NOT BE PERMITTED INSIDE RAILROAD RIGHT-OF-WAY.
3. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF THE RAILROADS PIPELINE OCCUPANCY SPECIFICATIONS.
4. PIPELINE AND CROSSING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.
5. BLASTING NOT PERMITTED.
6. WHERE THE WATER MAIN IS WITHIN 10 FEET OF A SEWER MAIN HORIZONTALLY, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18" FROM THE TOP OF THE SEWER MAIN, UNLESS OTHERWISE NOTED.
7. WORK FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES. THEREFORE, THE RISK OF A FAILURE OCCURRING DURING THE EXCAVATION REQUIRES THAT EXTREME CAUTION BE EXERCISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING WHAT BRACING, SHORING OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE EXCAVATION, THE PUBLIC THAT MAY BE ABOVE THE EXCAVATION, OR ANY STRUCTURE ADJACENT TO THE EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAWING AND CONSTRUCTING THE FACILITY SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT ITEMS.

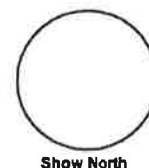
**KANSAS CITY SOUTHERN RAILROAD  
GENERAL NOTES**

# RAILROAD PERMIT

Sheet No.: 2 of 4

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		



## LINETYPE & SYMBOLS LEGEND:

	- CENTER LINE
	- RAILROAD
	- APPARENT KANSAS CITY SOUTHERN RAILROAD ROW
	- FENCE (EXIST)
	- FIBER OPTIC INDICATOR POST (EXIST)
	- FIBER OPTIC PULL BOX (EXIST)
	- FIRE HYDRANT (EXIST)
	- GAS INDICATOR POST (EXIST)
	- GAS LINE (EXIST)
	- GAS METER (EXIST)
	- GAS VALVE (EXIST)
	- GATE POST (EXIST)
	- LIGHT ON POLE (EXIST)
	- OVERHEAD UTILITY LINES (EXIST)
	- OVERHEAD UTILITY LINES (EXIST)
	- POLE GUY WIRE (EXIST)
	- PROPERTY LINE (EXIST)
	- SAN SWR FORCE MAIN (EXIST)
	- SAN SWR LINE (EXIST)
	- SAN SWR PUMP STATION (EXIST)
	- SIGN (EXIST)
	- SIGNAL (EXIST)
	- TREE LINE (EXIST)
	- DITCH (EXIST)
	- UNDERGROUND FIBER OPTIC LINE (EXIST)
	- UTILITY POLE (EXIST)
	- WATER LINE (EXIST)
	- WATER METER (EXIST)
	- WATER VALVE (EXIST)
	- WATER VALVE (REQ'D)
	- REDUCING FITTING (REQ'D)
	- FIRE HYDRANT (REQ'D)
	- WATER LINE (REQ'D)

## ABBREVIATIONS LEGEND:

APPURT	- APPURTENANCES
BLDG	- BUILDING
BTM	- BOTTOM
CL	- CENTERLINE
CONC	- CONCRETE
CMP	- CORRUGATED METAL PIPE
CPP	- CORRUGATED PLASTIC PIPE
DI	- DUCTILE IRON PIPE
DR	- DIAMETER RATIO
EOP	- EDGE OF PAVEMENT
EXIST	- EXISTING
HDPE	- HIGH DENSITY POLYETHYLENE
KCS	- KANSAS CITY SOUTHERN
LF	- LINEAR FEET
PL	- PROPERTY LINE
RCP	- REINFORCED CONCRETE PIPE
REQ'D	- REQUIRED
ROW	- RIGHT OF WAY
RR	- RAILROAD
SAN	- SANITARY
SEW	- SEWER
W/	- WITH
WT	- WALL THICKNESS
XING	- CROSSING

## KANSAS CITY SOUTHERN RAILROAD ABBREVIATIONS & LEGEND

# RAILROAD PERMIT

Sheet No.: 3 of 4

Permit No.: _____

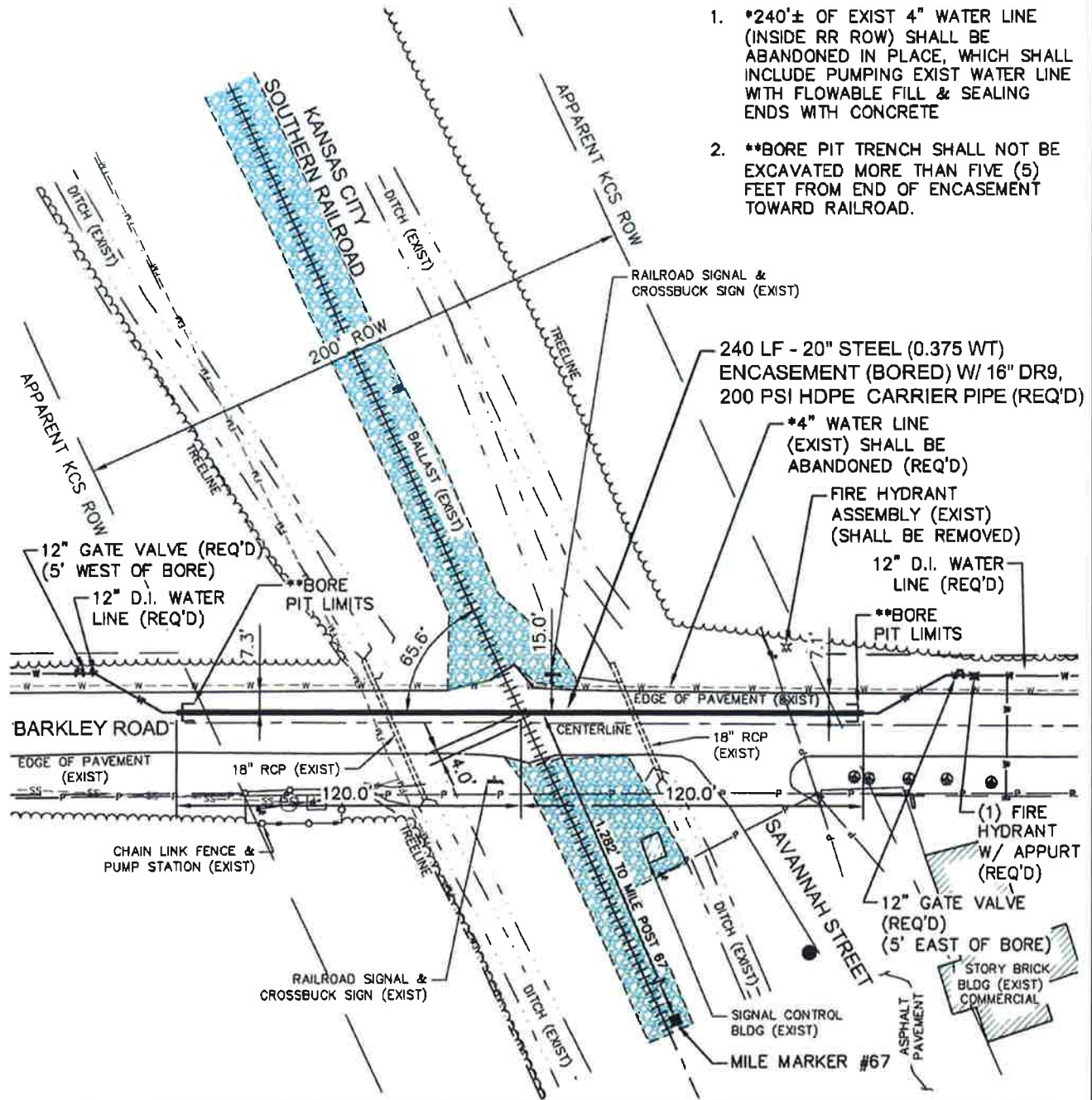
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



SCALE: 1" = 50'

## NOTES:

1. *240'± OF EXIST 4" WATER LINE (INSIDE RR ROW) SHALL BE ABANDONED IN PLACE, WHICH SHALL INCLUDE PUMPING EXIST WATER LINE WITH FLOWABLE FILL & SEALING ENDS WITH CONCRETE
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



**KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 1,282' NORTH OF MP #67**

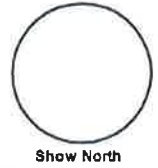


# RAILROAD PERMIT

Sheet No.: 4 of 4

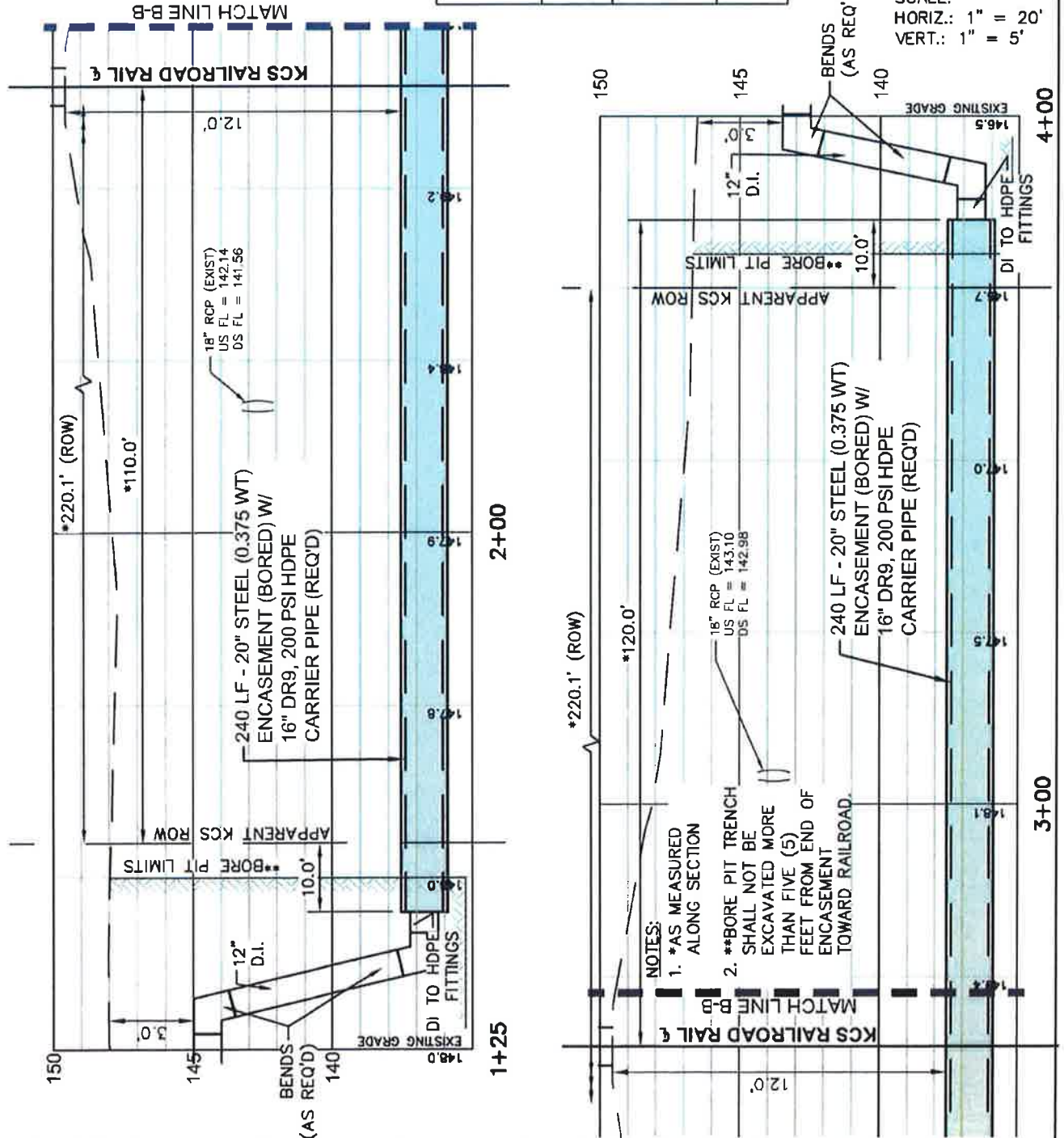
Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
06/06/17	RES		

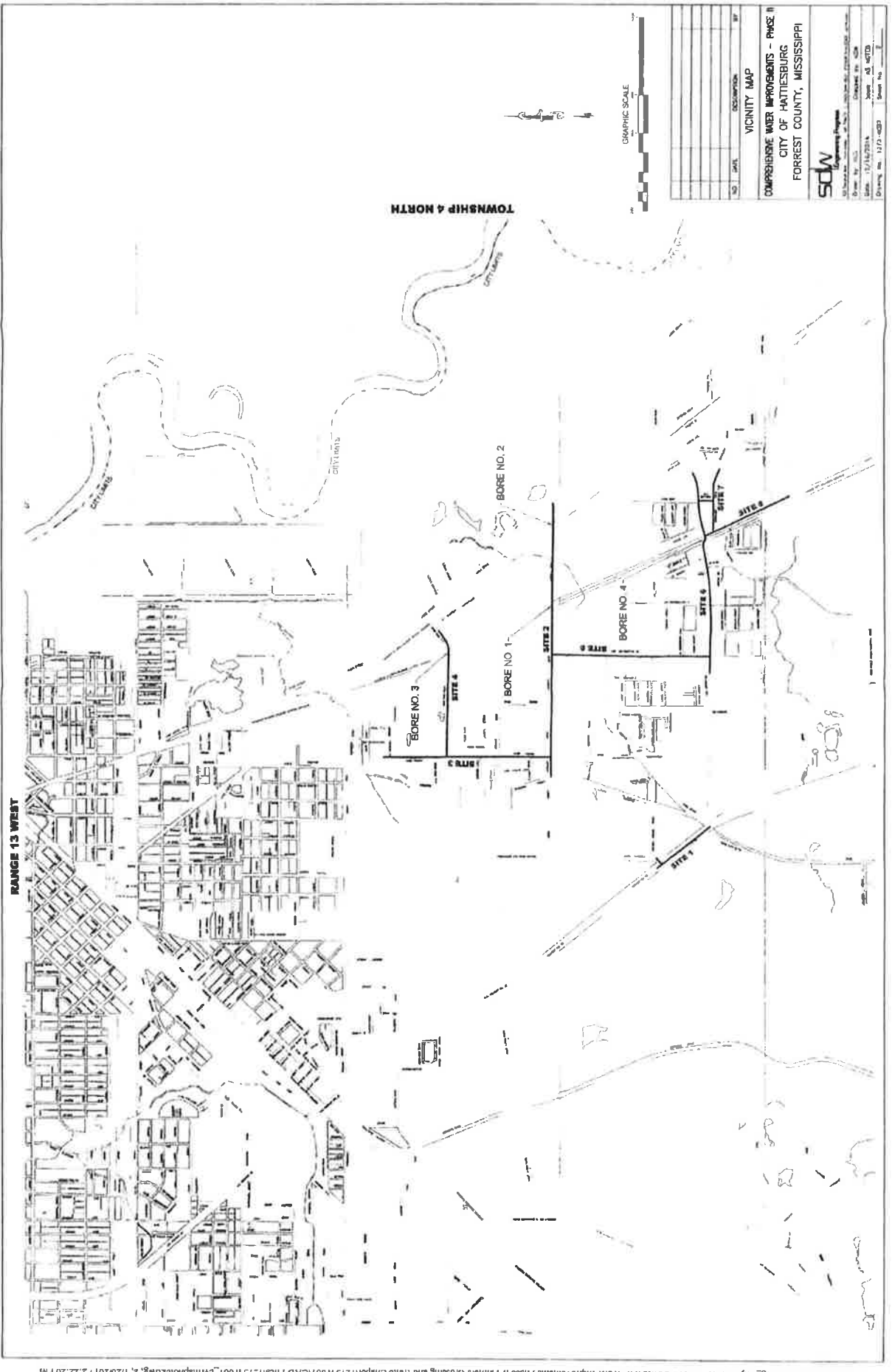


Show North

SCALE:  
HORIZ.: 1" = 20'  
VERT.: 1" = 5'



KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 1,282' NORTH OF MP #67



VICINITY MAP	
NO.	DATE
1	12/1/2014
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100	12/1/2014



Date: 5/24/2017

File: 17-3248

## CONTRACT SUMMARY and APPROVAL SHEET

Parties: KCS and City of Hattiesburg

Description: 16" HDPE Underground Water Line

Location: MP 067.23; Hattiesburg, MS

Term: Indefinitely, unless line interferes with Railway operations

### Location Identification:

Subdivision: **Gulfport**

Drawing No. **SD-17-2-067.23**

Near DOT # **305-283 V**

Type of Line: **Water Line**

Run of Line: **Underground**

Width of KCSR ROW: **200'**

Casing Diameter: **20"**

Casing Material: **Steel**

Length of Casing Pipe: **240'**

Method of Installation: **Dry Bore & Jack**

Depth: **12'**

Distance to Crossing: **4' North from the centerline Barkley Road at MP 067.23; Hattiesburg, MS**

### JaKay Summary:

KCS RAILWAY MAINTAINS FLASHERS AT BARKLEY ROAD AT MP 067.23, DOT #305-283 V. KCSR HAS UG WIRES IN THIS AREA, HOWEVER WE THINK THE WATER LINE WILL NOT INTERFERE WITH ANY KCSR OPERATIONS BECAUSE OF THE FOLLOWING:

- A) THE UG LINE WILL BE 12' BELOW RAIL AND 10' BELOW GROUND FOR AT LEAST 25' ON EITHER SIDE OF THE TRACKS.
- B) THE UG LINE WILL BE INSTALLED USING DRY BORE & JACK.
- C) THE UG LINE WILL BE INSTALLED FROM OUTSIDE THE KCS ROW.

### Recommendation:

- ☒ **APPROVED PENDING SIGNAL DEPT ON-SITE BEFORE CONSTRUCTION, BARTLETT & WEST MUST BE CONTACTED TO HAVE SIGNAL WIRES LOCATED AT SITE BEFORE WORK CAN BEGIN:**

**[kcscrossings@bartwest.com](mailto:kcscrossings@bartwest.com)**

**ONCE THE CONTRACTOR HAS BEEN NOTIFIED THAT THE SIGNAL WIRES HAVE BEEN LOCATED, THE CONTRACTOR SHALL MAINTAIN THOSE MARK-OUTS OR MAINTAIN REFERENCE POINTS TO THOSE MARK-OUTS.**

☐ **APPROVED (On-Site not required)**

☐ **DENIED**

Dates Reviewed and Approved:

6/12/2017

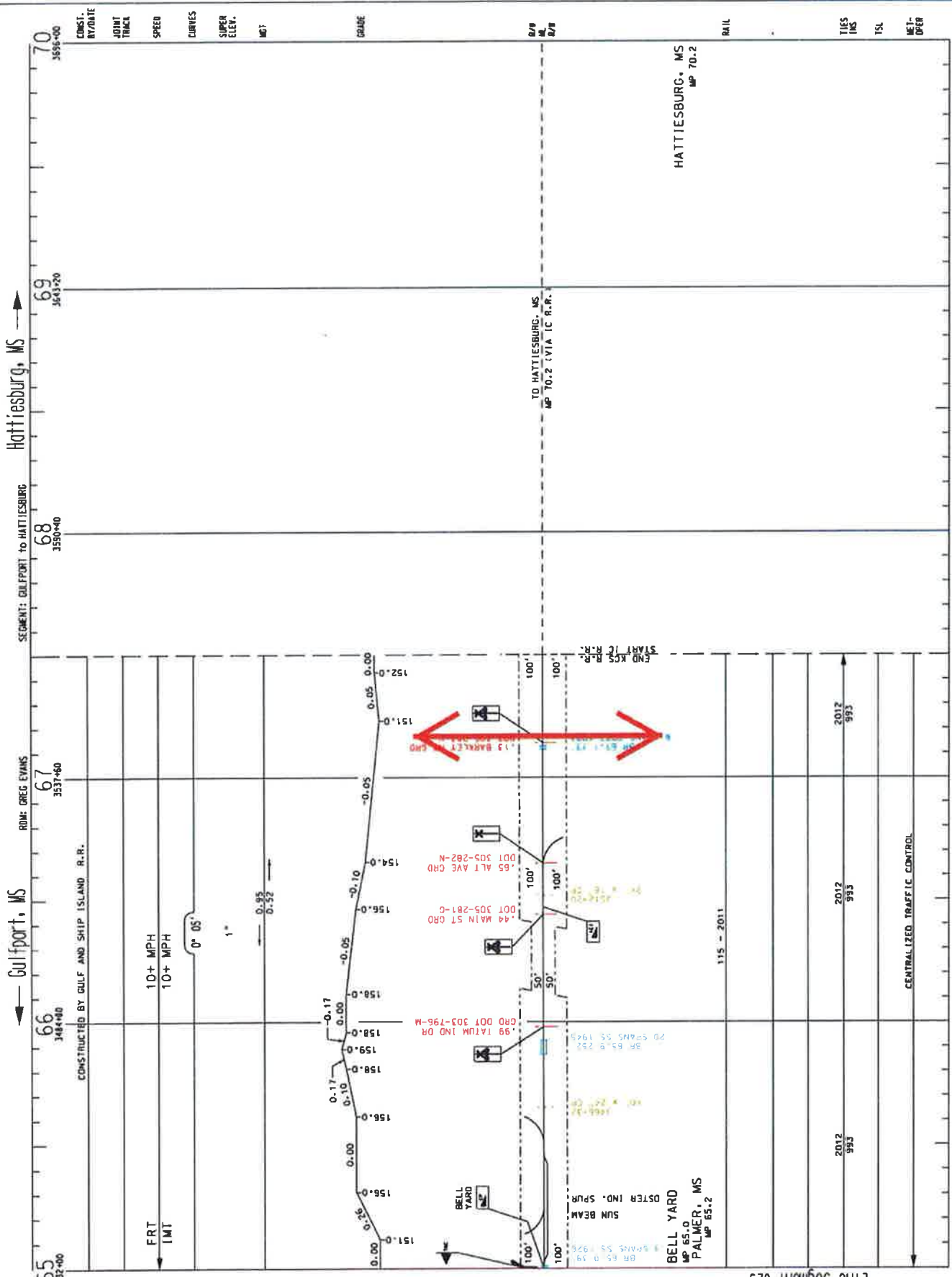
Heather Van Hoecke  
JaKay Signaling Inc.

6/13/2017

Carmen Wallace  
Kansas City Southern Railway

JaKay Signaling Inc.  
816-350-3001 ext. 100

Line Segment 029

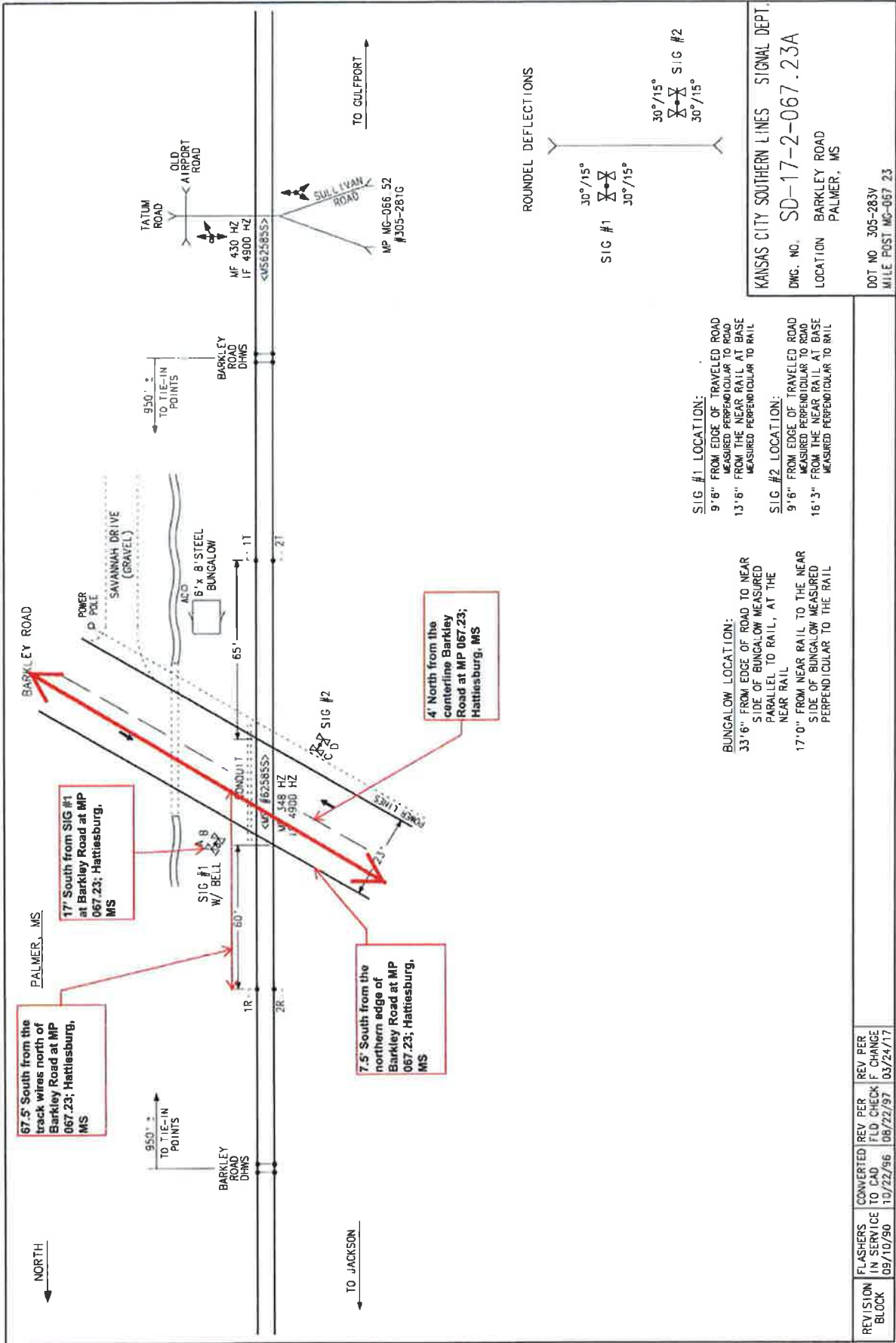


1100-690.dgn  
Revised : 3-3-2014

Gulfport Branch  
029-014















17' South from SIG #1  
at Barkley Road at MP  
067.23; Hattiesburg,  
MS

7.5' South from the  
northern edge of  
Barkley Road at MP  
067.23; Hattiesburg,  
MS

4' North from the  
centerline Barkley  
Road at MP 067.23;  
Hattiesburg, MS

© 2017 Google

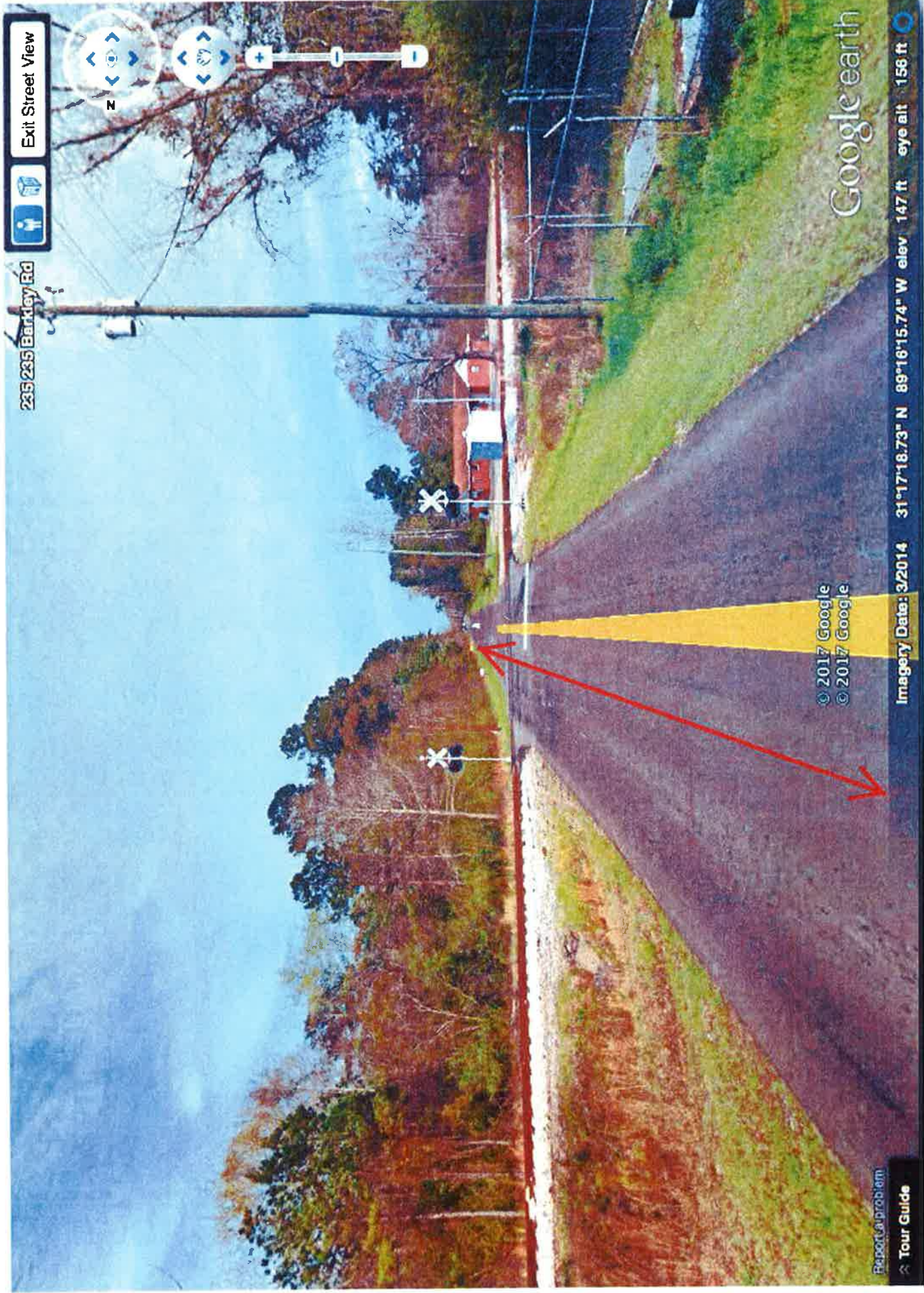
Google earth

Imagery Date: 11/27/2013 31°17'18.09" N 89°16'17.68" W elev 148 ft eye alt 418 ft

1996

Tour Guide





Google earth

Exit Street View



235 235 Barkley Rd



© 2017 Google  
© 2017 Google

Report a problem

Tour Guide

Imagery Date: 3/2014 31°17'18.73" N 89°16'15.74" W elev 147 ft eye alt 158 ft





THE KANSAS CITY SOUTHERN RAILWAY COMPANY

427 West 12th Street  
Kansas City, Missouri 64105-1403



Application for License to Install Pipeline or Wire Line Encroaching Over, Under or Parallel to KCS Tracks

Crossing - \$2,000 Processing Fee

Parallel - Call Sylvia Schmidt

Submit with non-refundable payable to:

JLL

Attn.: Sylvia Schmidt

4300 Amon Carter Blvd., Suite 100

Fort Worth, Texas 76155

Phone: (817) 230-2688 or Melissa Leal at (817) 230-2614

Email: sylvia.schmidt@am.jll.com or melissa.leal@am.jll.com

17-3249

1. Applicant Information:

Legal Name of the Owner of the Utility: City of Hattiesburg

Attn.: Lamar Rutland, P.E.

Mailing Address: P.O. Box 1898 City, State, Zip: Hattiesburg, MS 39403-1898

Phone: (601) 545-4640 Cell: _____

Email to whom agreement is to be sent: lrutland@hattiesburgms.com

Check One: ☐ Individual ☐ Company ☐ Partnership  
☐ Corporation ☒ Municipality ☐ Other (Specify) _____

Who to contact in the event of engineering questions: Kyle D. Wallace, P.E.

Phone: (601) 544-1821 Cell: (601) 310-7818

Email: kyle@sd-w.com

Proposed Installation Date(s): June 2017

*If not constructed within one (1) year, an additional review fee may be charged.*

2. Type of Encroachment (Crossing):

Check All That Apply: ☐ Overhead ☒ Underground ☐ Parallel

**If Overhead**, vertical clearance is _____ (in feet and inches) a 28' minimum is required from top of rail to bottom of overhead crossing point (maximum sag at 212°).

Existing Poles ☐ Yes ☐ No Distance between poles/Distance from edge of nearest track: _____

**If Underground Crossing**, depth of casing/carrier pipe: 10.0 feet below base of rail and 8.9 feet below ground surface or bottom of ditches, whichever is deeper (if (a) casing is used: minimum 10' below base of rail and minimum 6' from natural ground surface or from bottom of ditches; (b) if casing is not used: minimum 10' below base of rail and minimum 10' from natural ground surface or from bottom of ditches).

**If Underground Parallel**, distance _____ measured at right angle from centerline of tracks to encroachment (parallel and minimum 25' feet away, then minimum 72" ground cover; parallel and greater than 25' away, then minimum ground cover of 60". If the request is within 50' of KCS right-of-way, utility line shall be at least 10' below the ground for the entire KCS right-of-way.

*If an existing crossing is to be abandoned, see Section D - Abandonment on the Specific Requirements sheet.*



THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



**3. Location:** (provide all the information you can and identify two (2) markers of location information that can independently allow for verification of the wire line location in Section 3 and Section 4).

If crossing, relation to centerline of KCS Tracks at KCS Mile Post 68 + 1,057 feet

If parallel, beginning KCS Mile Post _____ + _____, ending KCS Mile Post + _____

Railroad Subdivision GULFPORT

If spur, distance from point of switch _____ feet

In or near City/Town/Village Hattiesburg, Parish/County Forrest, State MS

Section 23 Township 4N Range 13W

**4. Other Distances:**

If install is near a KCS bridge or culvert, distance from inside face of back wall on nearest KCS

Bridge: _____ Bridge MP: _____

Distance from centerline of nearest road crossing measured perpendicular to the rail line: 8.7', 8.3', 7.5'

DOTD#: _____ (<http://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/Crossing.aspx>)

Street Name: Dixie Pine Road

**5. Angle of Crossing:**

67 ° - 00 ° - 00 ° (if crossing track, not less than 45 degrees).

**6. Wire Line Commodity:**

☐ Telephone ☐ Power Line (Voltage _____) ☐ Other (Specify) _____

☐ Fiber Optic – If underground, number of innerducts within casing pipe _____

If an innerduct will be left spare or empty, clearly identify type of facility that will be installed within each innerduct.

See Section A – General on the Specific Requirements sheet for standards used.

If encroachment is an overhead wire line, proceed to the end of this application and provide signature.

**7. Pipeline Commodity:**

Commodity to be transmitted in the pipeline: Water

Transmitted by: ☐ Gravity ☒ Force ☐ Liquid  
☐ Gas ☐ Steam ☐ Other (Please Specify _____)

Type of Commodity: ☐ Flammable ☒ Non-Flammable ☐ Corrosive ☐ Toxic  
☐ Environmental Hazard

If hazardous, toxic or corrosive material, give details: _____

See Section A – General on the Specific Requirements sheet for standards used.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



**8. Pipe/Wire Information:**

	<u>Carrier Pipe</u>	<u>Casing Pipe</u>
Inside Diameter (nominal):	<u>16"</u>	<u>20"</u>
Wall Thickness:	<u>1.778"</u>	<u>0.375"</u>
Material:	<u>HDPE</u>	<u>Steel</u>
Minimum Yield Point of Material:	<u>65 PSI</u>	<u>35 ksi</u>
Type of Joint:	<u>Heat Fusion</u>	<u>Welded</u>
Maximum Operating Pressure in Pipeline:	<u>N/A</u>	<u>N/A</u>

Hydrostatic pressure at which carrier pipe will be tested before using: 150 psi

Will carrier pipe have protective coating? ☐ Yes ☒ No If so, please provide type: _____

Will carrier pipe be cathodically protected? ☐ Yes ☒ No

*Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.*

**9. Casing Information:**

Length of casing pipe ~~200 LF~~ 216' (if casing pipe is vented, casing shall extend to right-of-way lines; if not vented, casing shall be a minimum 25' each side as measured at right angles to centerline of track).

Will casing pipe have protective coating? ☐ Yes ☒ No

If so, please provide type: _____

Will casing pipe be cathodically protected? ☐ Yes ☒ No

*Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.*

*See Section B – Casing and Section E – Signage on the Specific Requirements sheet for additional requirements.*

**10. Method of Installing Pipe/Wire:** Dry Bore and Jack

*Dry Bore and Jack, Conventional Dry Bore or Directional Drill up to 10". Wet boring or open cut trenching across tracks WILL NOT be permitted.*

*See Section C – Boring and Section F – Shoring on the Specific Requirements sheet for additional requirements.*

**11. Venting:**

Will casing pipe be vented? ☐ Yes ☒ No Diameter: _____ (minimum 2")

Number of Vents: _____ Vent Height above ground surface: _____ (minimum 4')

*Pipes carrying flammable contents must be vented. Vents are to be located at ends of casing off of KCS property and to be shown on drawing.*



THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



**12. Additional Fees:**

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**13. Existing Agreement?** ☐ Yes ☒ No

*If replacing or repairing an existing line, a copy of the current permit agreement with KCS must be provided and accompany this application.*

**14. Was this service requested by KCS?** ☐ Yes ☒ No

If yes, who requested? _____ Phone #: _____

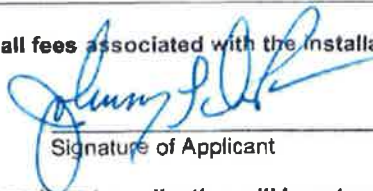
Is this Installation in conjunction with a track or track expansion project? ☐ Yes ☒ No

If yes, KCS contact name and phone number: _____ Phone#: _____

By signing below, **applicant agrees to pay all fees associated with the installation of this utility.**

Johnny L. DuPree, Mayor

Name of Applicant

  
Signature of Applicant

2-21-17  
Date

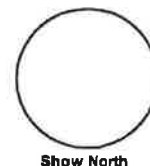
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## RAILROAD PERMIT

Sheet No.: 1 of 4

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		



### GENERAL NOTES:

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2. EXCAVATION SHALL NOT BE PERMITTED INSIDE RAILROAD RIGHT-OF-WAY.
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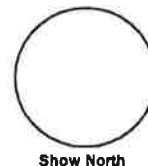
**KANSAS CITY SOUTHERN RAILROAD  
GENERAL NOTES**

# RAILROAD PERMIT

Sheet No.: 2 of 4

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		



## LINETYPE & SYMBOLS LEGEND:

	- CENTER LINE
	- RAILROAD
	- APPARENT KANSAS CITY SOUTHERN RAILROAD ROW
	- FENCE (EXIST)
	- FIBER OPTIC INDICATOR POST (EXIST)
	- FIBER OPTIC PULL BOX (EXIST)
	- FIRE HYDRANT (EXIST)
	- GAS INDICATOR POST (EXIST)
	- GAS LINE (EXIST)
	- GAS METER (EXIST)
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	- LIGHT ON POLE (EXIST)
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	- OVERHEAD UTILITY LINES (EXIST)
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	- PROPERTY LINE (EXIST)
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	- SAN SWR LINE (EXIST)
	- SAN SWR PUMP STATION (EXIST)
	- SIGN (EXIST)
	- SIGNAL (EXIST)
	- TREE LINE (EXIST)
	- DITCH (EXIST)
	- UNDERGROUND FIBER OPTIC LINE (EXIST)
	- UTILITY POLE (EXIST)
	- WATER LINE (EXIST)
	- WATER METER (EXIST)
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## ABBREVIATIONS LEGEND:

APPURT	- APPURTENANCES
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DI	- DUCTILE IRON PIPE
DR	- DIAMETER RATIO
EOP	- EDGE OF PAVEMENT
EXIST	- EXISTING
HDPE	- HIGH DENSITY POLYETHYLENE
KCS	- KANSAS CITY SOUTHERN
LF	- LINEAR FEET
PL	- PROPERTY LINE
RCP	- REINFORCED CONCRETE PIPE
REQ'D	- REQUIRED
ROW	- RIGHT OF WAY
RR	- RAILROAD
SAN	- SANITARY
SEW	- SEWER
W/	- WITH
WT	- WALL THICKNESS
XING	- CROSSING

## KANSAS CITY SOUTHERN RAILROAD ABBREVIATIONS & LEGEND

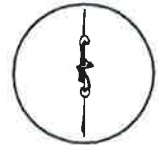


# RAILROAD PERMIT

Sheet No.: 3 of 4

Permit No.: _____

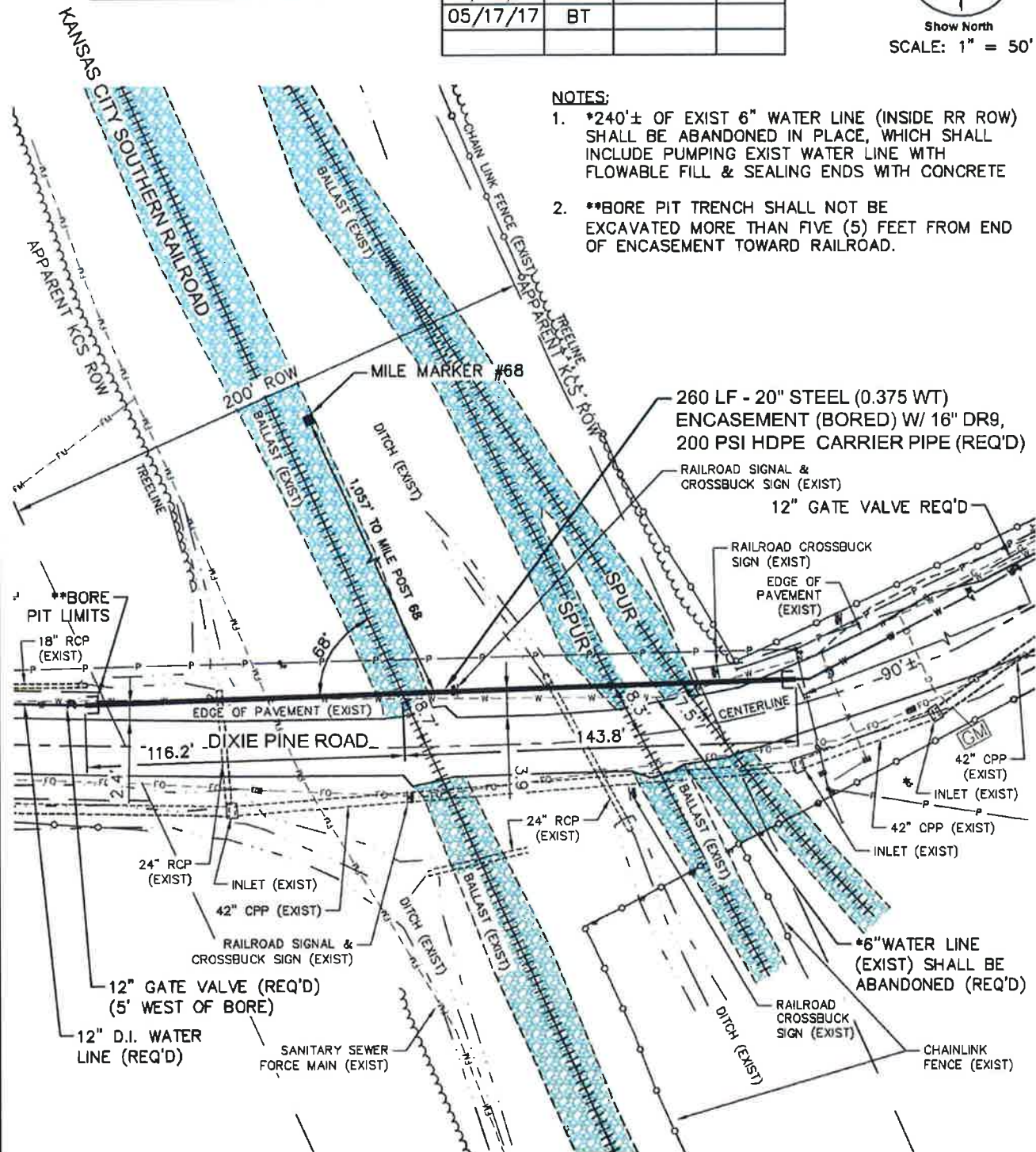
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



Show North  
SCALE: 1" = 50'

## NOTES:

1. *240'± OF EXIST 6" WATER LINE (INSIDE RR ROW) SHALL BE ABANDONED IN PLACE, WHICH SHALL INCLUDE PUMPING EXIST WATER LINE WITH FLOWABLE FILL & SEALING ENDS WITH CONCRETE
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



**KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 1,057' SOUTH OF MP #68**

**KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 1,057' SOUTH OF MP #68**



GRAPHIC SCALE

NO	DATE	DESCRIPTION	BY
		VICINITY MAP	

COMPREHENSIVE WATER IMPROVEMENTS - PHASE II  
CITY OF HATTESBURG  
FORREST COUNTY, MISSISSIPPI

sdw  
Engineering Program

Drawn by	AKS	Checked by	AKS
Date	12/16/2014	Scale	AS NOTED
Sheeting No	172-0005	Sheet No	1





Date: 5/23/2017

File: 17-3249

## CONTRACT SUMMARY and APPROVAL SHEET

Parties: KCS and City of Hattiesburg

Description: 16" HDPE Underground Water Line

Location: MP 067.78; Hattiesburg, MS

Term: Indefinitely, unless line interferes with Railway operations

### Location Identification:

Subdivision: **Gulfport**

Drawing No. **SD-17-2-067.78**

Near DOT # **UNKNOWN**

Type of Line: **Water Line**

Run of Line: **Underground**

Width of KCSR ROW: **UNKNOWN**

Casing Diameter: **20"**

Casing Material: **Steel**

Length of Casing Pipe: **216'**

Method of Installation: **Dry Bore & Jack**

Depth: **10'**

Distance to Crossing: **8.7', 8.3' and 7.5' North from the centerline Dixie Pine Road at MP 067.78; Hattiesburg, MS**

### JaKay Summary:

KCS RAILWAY DOES NOT MAINTAIN FLASHERS OR GATES AT DIXIE PINE ROAD AT MP 067.78, DOT #UNKNOWN. KCSR DOES NOT HAVE UG WIRES IN THIS AREA, HOWEVER WE THINK THE WATER LINE WILL NOT INTERFERE WITH ANY KCSR OPERATIONS BECAUSE OF THE FOLLOWING:

- A) THE UG LINE WILL BE AT LEAST 7.5" FROM THE CENTERLINE OF THE ROAD CROSSING.
- B) THE UG LINE WILL BE 10' BELOW RAIL AND 8.9' BELOW GROUND FOR THE ENTIRE ROW.
- C) THE UG LINE WILL BE INSTALLED USING DRY BORE & JACK.
- D) THE UG LINE WILL BE INSTALLED FROM OUTSIDE THE KCS ROW.

**SPECIAL NOTE: SIGNAL DEPARTMENT TERRITORY SUPERVISOR NEEDS TO BE NOTIFIED BEFORE INSTALLATION TO CONFIRM NO SIGNAL EQUIPMENT HAS RECENTLY BEEN INSTALLED AT THIS CROSSING. THERE'S NO EXISTING EQUIPMENT AT THIS TIME, BUT WE ARE UNABLE TO ENSURE NONE WILL BE INSTALLED BETWEEN THE TIME THIS REQUEST IS APPROVED AND INSTALLED.**

### Recommendation:

- ☒ **APPROVED PENDING SIGNAL DEPT ON-SITE BEFORE CONSTRUCTION, BARTLETT & WEST MUST BE CONTACTED TO HAVE SIGNAL WIRES LOCATED AT SITE BEFORE WORK CAN BEGIN:**

**kcscrossings@bartwest.com**

**ONCE THE CONTRACTOR HAS BEEN NOTIFIED THAT THE SIGNAL WIRES HAVE BEEN LOCATED, THE CONTRACTOR SHALL MAINTAIN THOSE MARK-OUTS OR MAINTAIN REFERENCE POINTS TO THOSE MARK-OUTS.**

- ☐ **APPROVED (On-Site not required)**

- ☐ **DENIED**

Dates Reviewed and Approved:

6/8/2017

6/12/2017

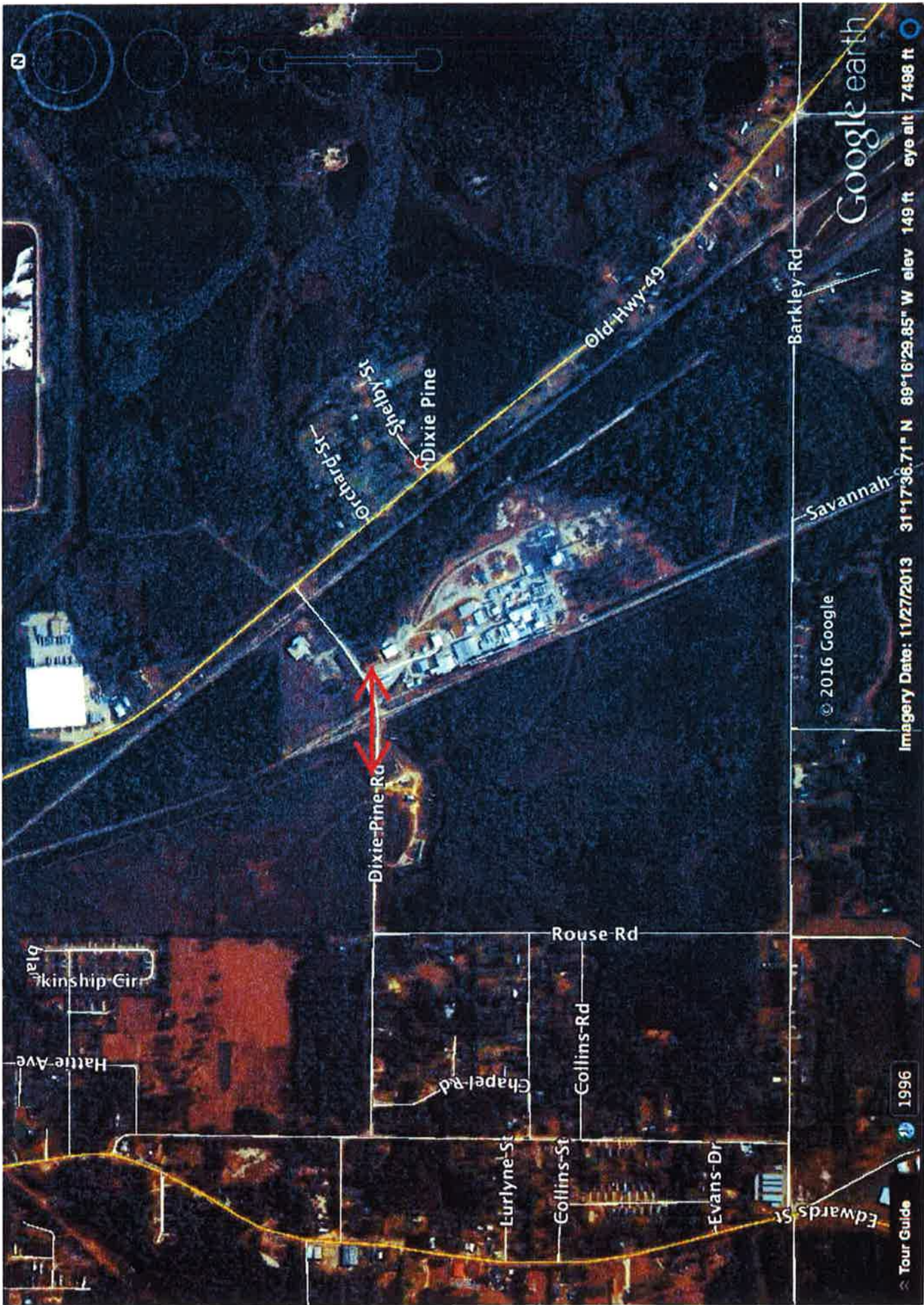
Heather Van Hoecke  
JaKay Signaling Inc.

Carmen Wallace  
Kansas City Southern Railway

JaKay Signaling Inc.  
816-350-3001 ext. 100







Google earth

© 2016 Google

Imagery Date: 11/27/2013

31°17'36.71" N

89°16'29.85" W

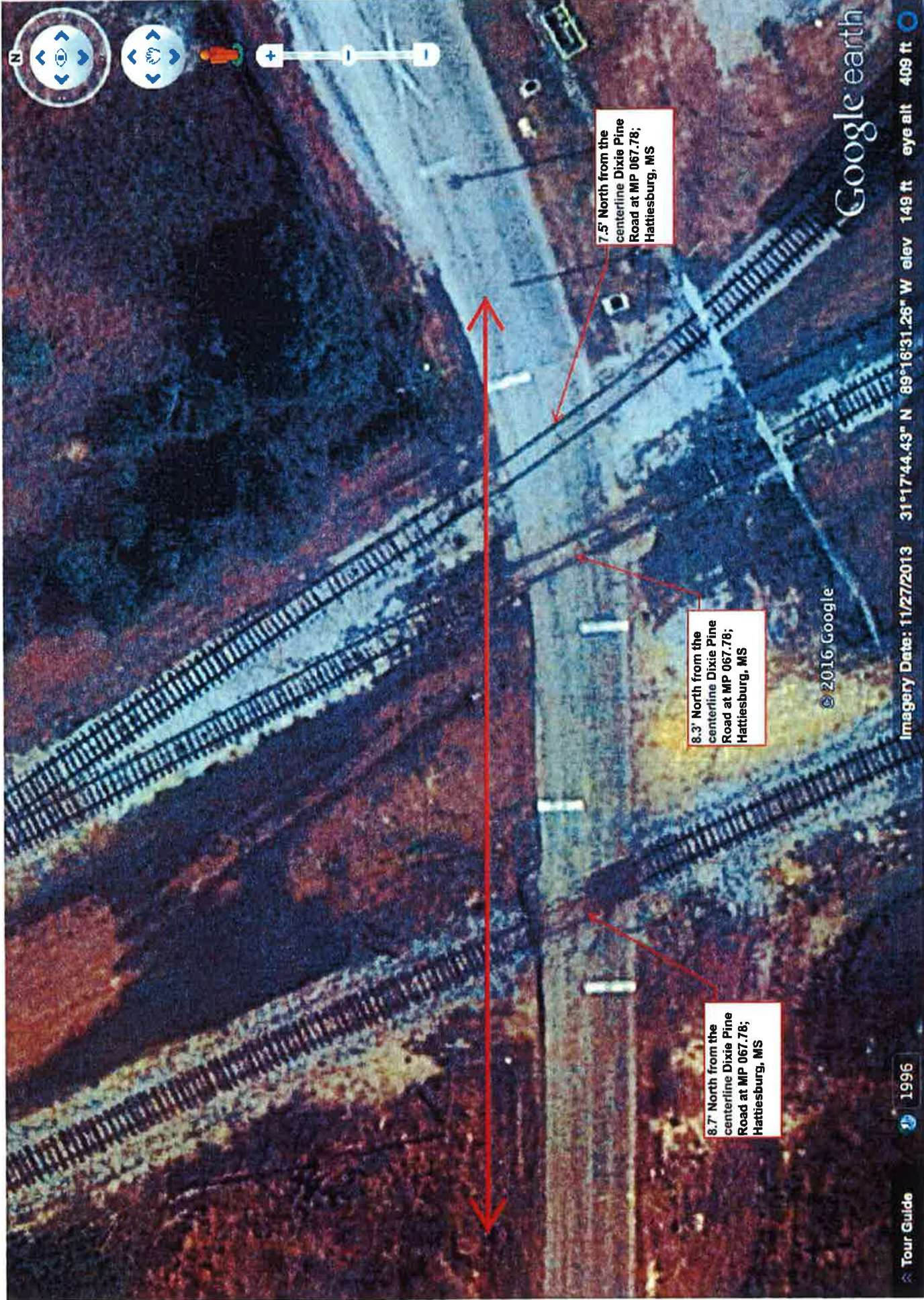
elev 149 ft

eye alt 7498 ft

1996

Tour Guide





Google earth

© 2016 Google

Imagery Date: 11/27/2013

31°17'44.43" N 89°16'31.26" W elev 149 ft

eye alt 409 ft

Tour Guide

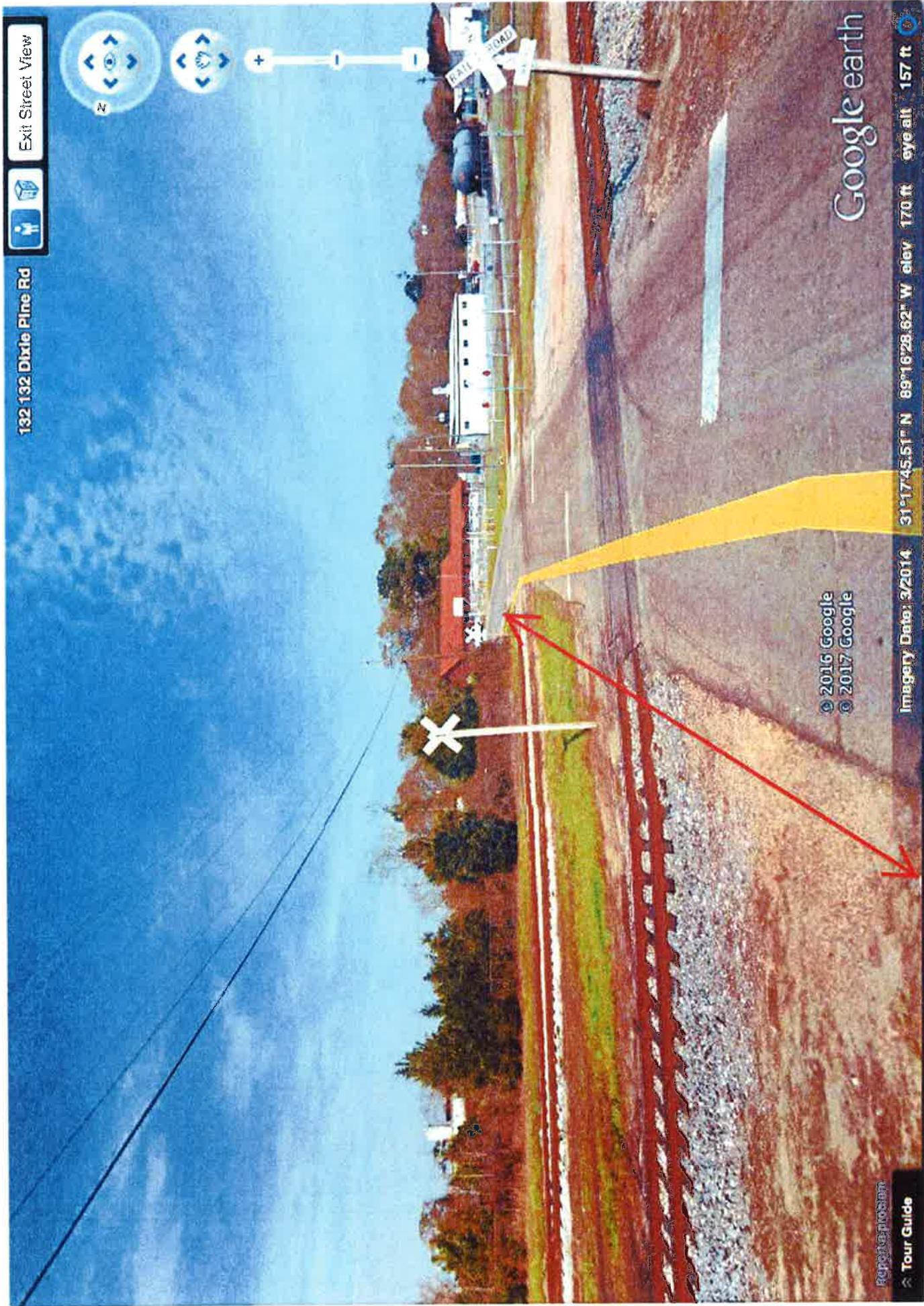
1996

7.5' North from the centerline Dixie Pine Road at MP 067.78; Hattiesburg, MS

8.3' North from the centerline Dixie Pine Road at MP 067.78; Hattiesburg, MS

8.7' North from the centerline Dixie Pine Road at MP 067.78; Hattiesburg, MS





Exit Street View



132 132 Dixie Pine Rd

Google earth

© 2016 Google  
© 2017 Google

Imagery Date: 3/2014

31°17'45.51" N 89°16'28.62" W

elev 170 ft

eye alt 157 ft

Report a problem  
Tour Guide





THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



Application for License to Install Pipeline or Wire Line Encroaching Over, Under or Parallel to KCS Tracks

Crossing - \$2,000 Processing Fee  
Parallel - Call Sylvia Schmidt

Submit with non-refundable payable to:

JLL

Attn.: Sylvia Schmidt  
4300 Amon Carter Blvd., Suite 100  
Fort Worth, Texas 76155

Phone: (817) 230-2688 or Melissa Leal at (817) 230-2614  
Email: sylvia.schmidt@am.jll.com or melissa.leal@am.jll.com

17-3250

**1. Applicant Information:**

Legal Name of the Owner of the Utility: City of Hattiesburg

Attn: Lamar Rutland, P.E.

Mailing Address: P.O. Box 1898 City, State, Zip: Hattiesburg, MS 39403-1898

Phone: (601) 545-4640

Cell: _____

Email to whom agreement is to be sent: lrutland@hattiesburgms.com

Check One: ☐ Individual

☐ Company

☐ Partnership

☐ Corporation

☒ Municipality

☐ Other (Specify) _____

Who to contact in the event of engineering questions: Kyle D. Wallace, P.E.

Phone: 9601) 544-1821

Cell: (601) 310-7818

Email: kyle@sd-w.com

Proposed Installation Date(s): June 2017

*If not constructed within one (1) year, an additional review fee may be charged.*

**2. Type of Encroachment (Crossing):**

Check All That Apply: ☐ Overhead ☒ Underground ☐ Parallel

**If Overhead**, vertical clearance is _____ (in feet and inches) a 28' minimum is required from top of rail to bottom of overhead crossing point (maximum sag at 212°).

Existing Poles ☐ Yes ☐ No

Distance between poles/Distance from edge of nearest track: _____

**If Underground Crossing**, depth of casing/carrier pipe: 10.0 feet below base of rail and 6.0 ~~3'~~ feet below ground surface or bottom of ditches, whichever is deeper (if (a) casing is used: minimum 10' below base of rail and minimum 6' from natural ground surface or from bottom of ditches; (b) if casing is not used: minimum 10' below base of rail and minimum 10' from natural ground surface or from bottom of ditches).

**If Underground Parallel**, distance 55' measured at right angle from centerline of tracks to encroachment (parallel and minimum 25' feet away, then minimum 72" ground cover; parallel and greater than 25' away, then minimum ground cover of 60". If the request is within 50' of KCS right-of-way, utility line shall be at least 10' below the ground for the entire KCS right-of-way.

*If an existing crossing is to be abandoned, see Section D - Abandonment on the Specific Requirements sheet.*



THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
Kansas City, Missouri 64105-1403



3. **Location:** (provide all the information you can and identify two (2) markers of location information that can independently allow for verification of the wire line location in Section 3 and Section 4).

If crossing, relation to centerline of KCS Tracks at KCS Mile Post 66 + 2,415 feet

If parallel, beginning KCS Mile Post          +         , ending KCS Mile Post +         

Railroad Subdivision GULFPORT

If spur, distance from point of switch          feet

In or near City/Town/Village Hattiesburg, Parish/County Forrest, State MS

Section 26 Township 4N Range 13W

4. **Other Distances:**

If install is near a KCS bridge or culvert, distance from inside face of back wall on nearest KCS

Bridge:          Bridge MP:         

Distance from centerline of nearest road crossing measured perpendicular to the rail line: 103'

DOTD#:          (<http://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/Crossing.aspx>)

Street Name: Old Airport Road

5. **Angle of Crossing:**

90 ° - 00 ' - 00 " (if crossing track, not less than 45 degrees)

6. **Wire Line Commodity:**

☐ Telephone ☐ Power Line (Voltage         ) ☐ Other (Specify)         

☐ Fiber Optic – If underground, number of Innerducts within casing pipe         

If an innerduct will be left spare or empty, clearly identify type of facility that will be installed within each innerduct.

See Section A – General on the Specific Requirements sheet for standards used.

If encroachment is an overhead wire line, proceed to the end of this application and provide signature.

7. **Pipeline Commodity:**

Commodity to be transmitted in the pipeline: Water

Transmitted by: ☐ Gravity ☒ Force ☐ Liquid  
☐ Gas ☐ Steam ☐ Other (Please Specify         )

Type of Commodity: ☐ Flammable ☒ Non-Flammable ☐ Corrosive ☐ Toxic  
☐ Environmental Hazard

If hazardous, toxic or corrosive material, give details:         

See Section A – General on the Specific Requirements sheet for standards used.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
427 West 12th Street  
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**8. Pipe/Wire Information:**

	<u>Carrier Pipe</u>	<u>Casing Pipe</u>
Inside Diameter (nominal):	<u>16"</u>	<u>20"</u>
Wall Thickness:	<u>1.778"</u>	<u>0.375"</u>
Material:	<u>HDPE</u>	<u>Steel</u>
Minimum Yield Point of Material:		<u>35 ksi</u>
Type of Joint:	<u>Heat Fusion</u>	<u>Welded</u>
Maximum Operating Pressure in Pipeline:	<u>N/A</u>	<u>N/A</u>

Hydrostatic pressure at which carrier pipe will be tested before using 150 psi

Will carrier pipe have protective coating? ☐ Yes ☒ No If so, please provide type: _____

Will carrier pipe be cathodically protected? ☐ Yes ☒ No

*Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.*

**9. Casing Information:**

Length of casing pipe ~~120 LF~~ 340' (if casing pipe is vented, casing shall extend to right-of-way lines; if not vented, casing shall be a minimum 25' each side as measured at right angles to centerline of track).

Will casing pipe have protective coating? ☐ Yes ☒ No

If so, please provide type: _____

Will casing pipe be cathodically protected? ☐ Yes ☒ No

*Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.*

*See Section B – Casing and Section E – Signage on the Specific Requirements sheet for additional requirements.*

**10. Method of Installing Pipe/Wire:** Dry Bore and Jack & OPEN CUT

*Dry Bore and Jack, Conventional Dry Bore or Directional Drill up to 10". Wet boring or open cut trenching across tracks **WILL NOT** be permitted.*

*See Section C – Boring and Section F – Shoring on the Specific Requirements sheet for additional requirements.*

**11. Venting:**

Will casing pipe be vented? ☐ Yes ☒ No Diameter: _____ (minimum 2")

Number of Vents: _____ Vent Height above ground surface: _____ (minimum 4')

*Pipes carrying flammable contents must be vented. Vents are to be located at ends of casing off of KCS property and to be shown on drawing.*



THE KANSAS CITY SOUTHERN RAILWAY COMPANY

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If yes, who requested? _____ Phone #: _____

Is this Installation in conjunction with a track or track expansion project? ☐ Yes ☒ No

If yes, KCS contact name and phone number: _____ Phone#: _____

By signing below, applicant agrees to pay all fees associated with the installation of this utility.

Johnny L. DuPree, Mayor  
Name of Applicant

  
Signature of Applicant

2-21-17  
Date

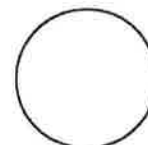
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## RAILROAD PERMIT

Sheet No.: 1 of 5

Permit No.: _____

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DATE	BY	DATE	BY
05/08/17	BT		
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Show North

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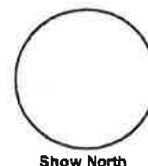
**KANSAS CITY SOUTHERN RAILROAD  
GENERAL NOTES**

# RAILROAD PERMIT

Sheet No.: 2 of 5

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EXIST	- EXISTING
HDPE	- HIGH DENSITY POLYETHYLENE
KCS	- KANSAS CITY SOUTHERN
LF	- LINEAR FEET
PL	- PROPERTY LINE
RCP	- REINFORCED CONCRETE PIPE
REQ'D	- REQUIRED
ROW	- RIGHT OF WAY
RR	- RAILROAD
SAN	- SANITARY
SEW	- SEWER
W/	- WITH
WT	- WALL THICKNESS
XING	- CROSSING

## KANSAS CITY SOUTHERN RAILROAD ABBREVIATIONS & LEGEND



# RAILROAD PERMIT

Sheet No.: 3 of 5

Permit No.: _____

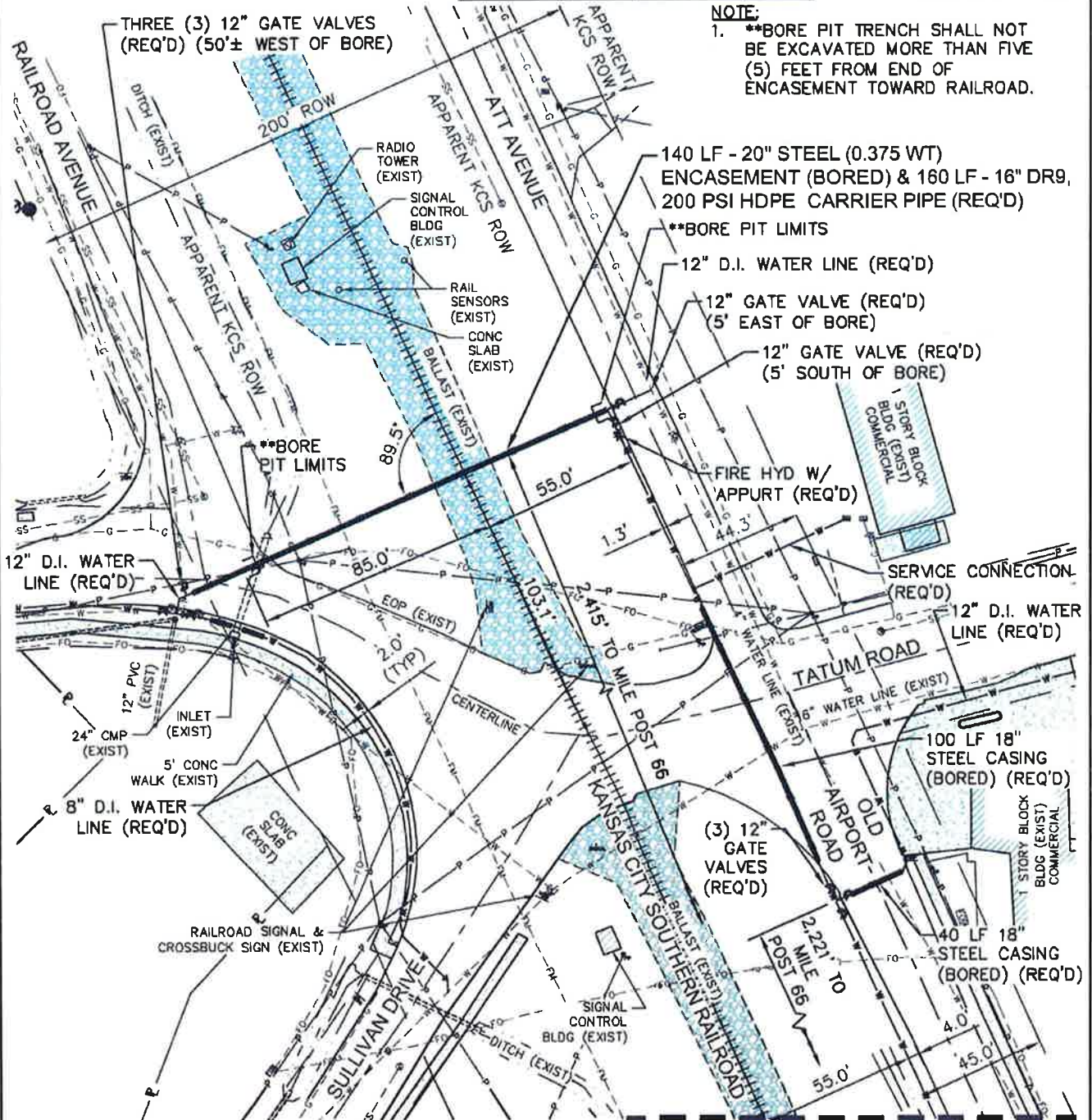
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



SCALE: 1" = 50'

## NOTE:

1. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



**KANSAS CITY SOUTHERN RAILROAD PIPE BORE:  
2,415' NORTH OF MP #66**

MATCH  
LINE C-C



# RAILROAD PERMIT

Sheet No.: 4 of 5

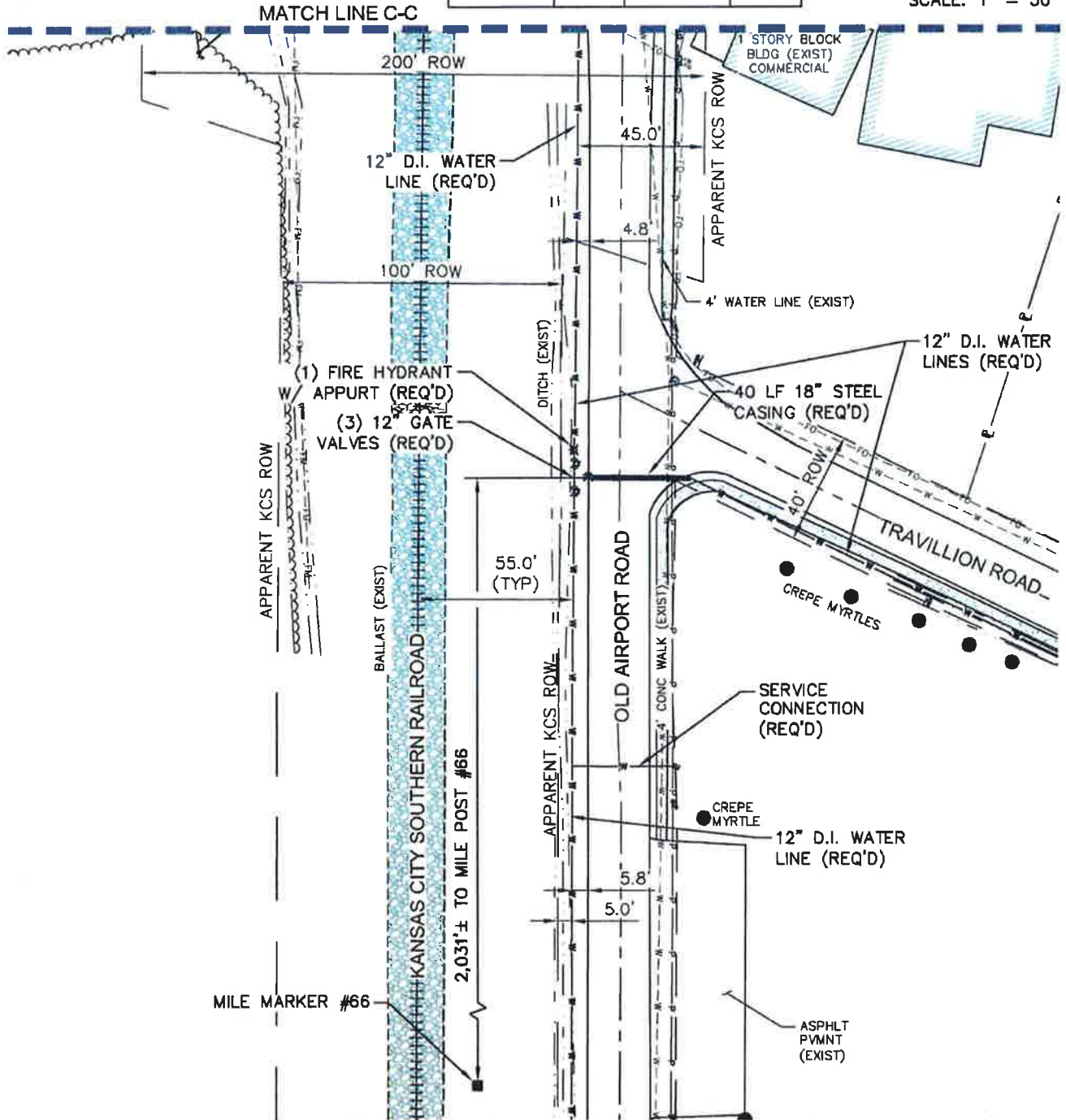
Permit No.:

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



Show North

SCALE: 1" = 50'



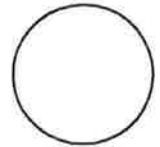
**KANSAS CITY SOUTHERN RAILROAD PIPE BORE:  
2,415' NORTH OF MP #66**

# RAILROAD PERMIT

Sheet No.: 5 of 5

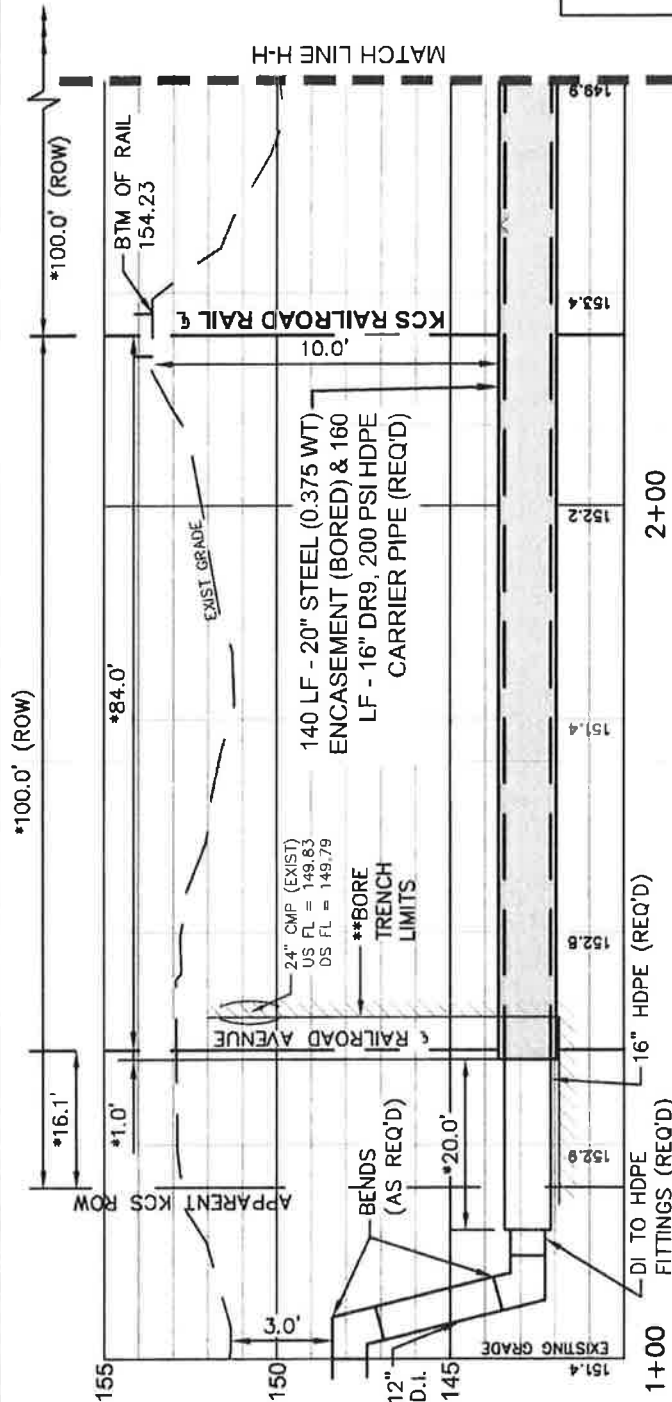
Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	RES		
05/17/17	RES		



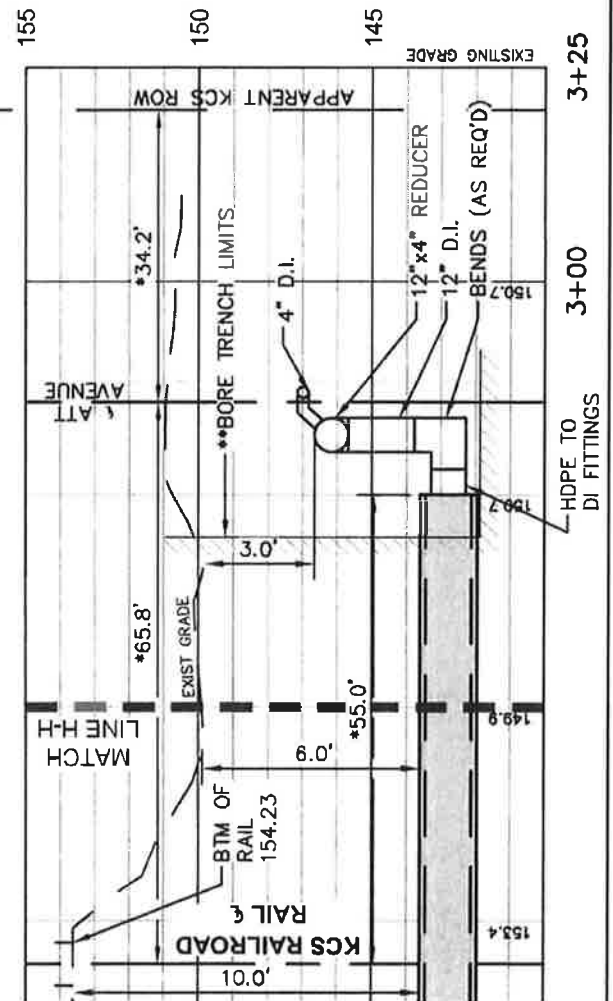
Show North

SCALE:  
HORIZ.: 1" = 20'  
VERT.: 1" = 5'



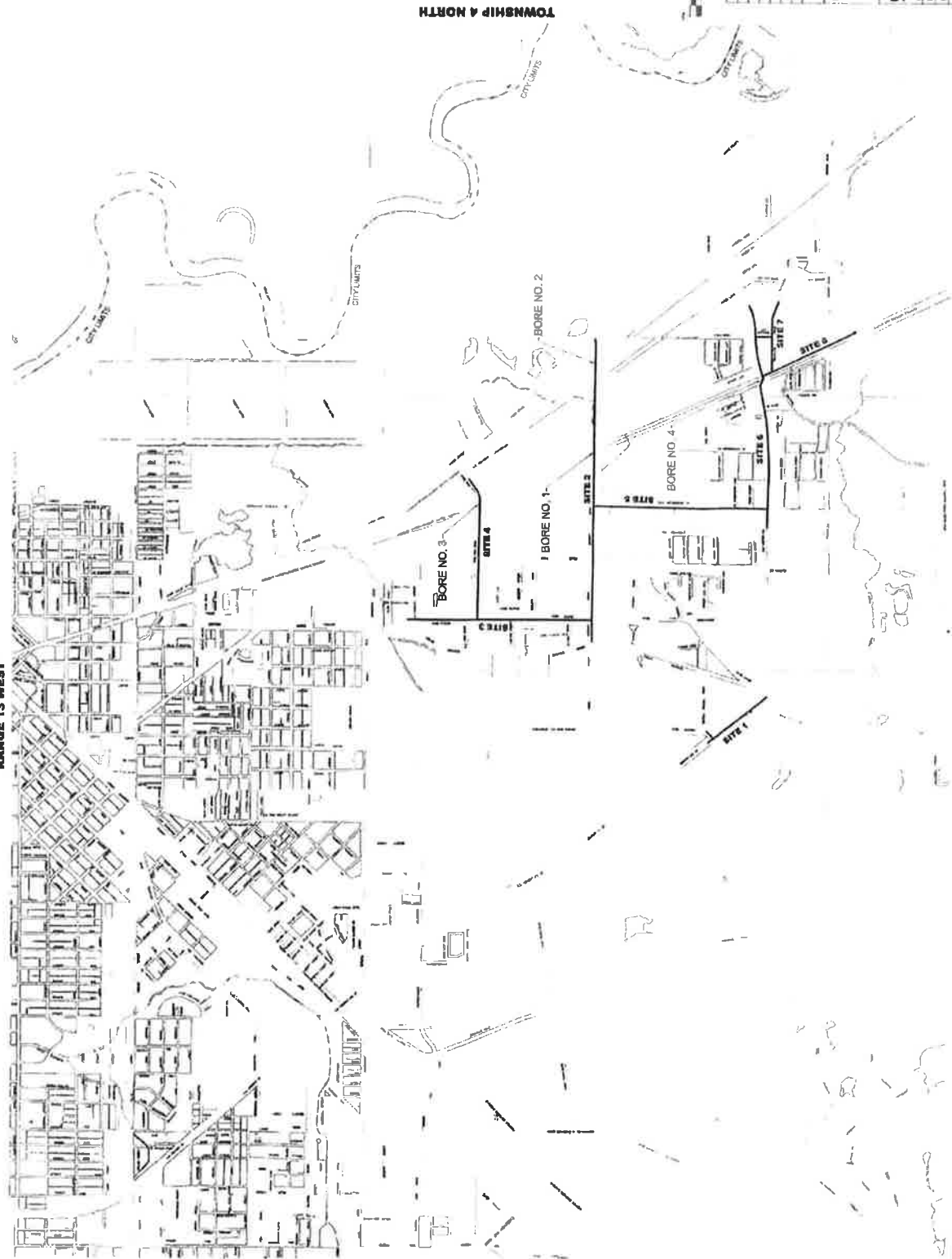
## NOTES:

1. *AS MEASURED ALONG SECTION
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASUREMENT TOWARD RAILROAD.



**KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 2,415' NORTH OF MP #66**

RANGE 13 WEST



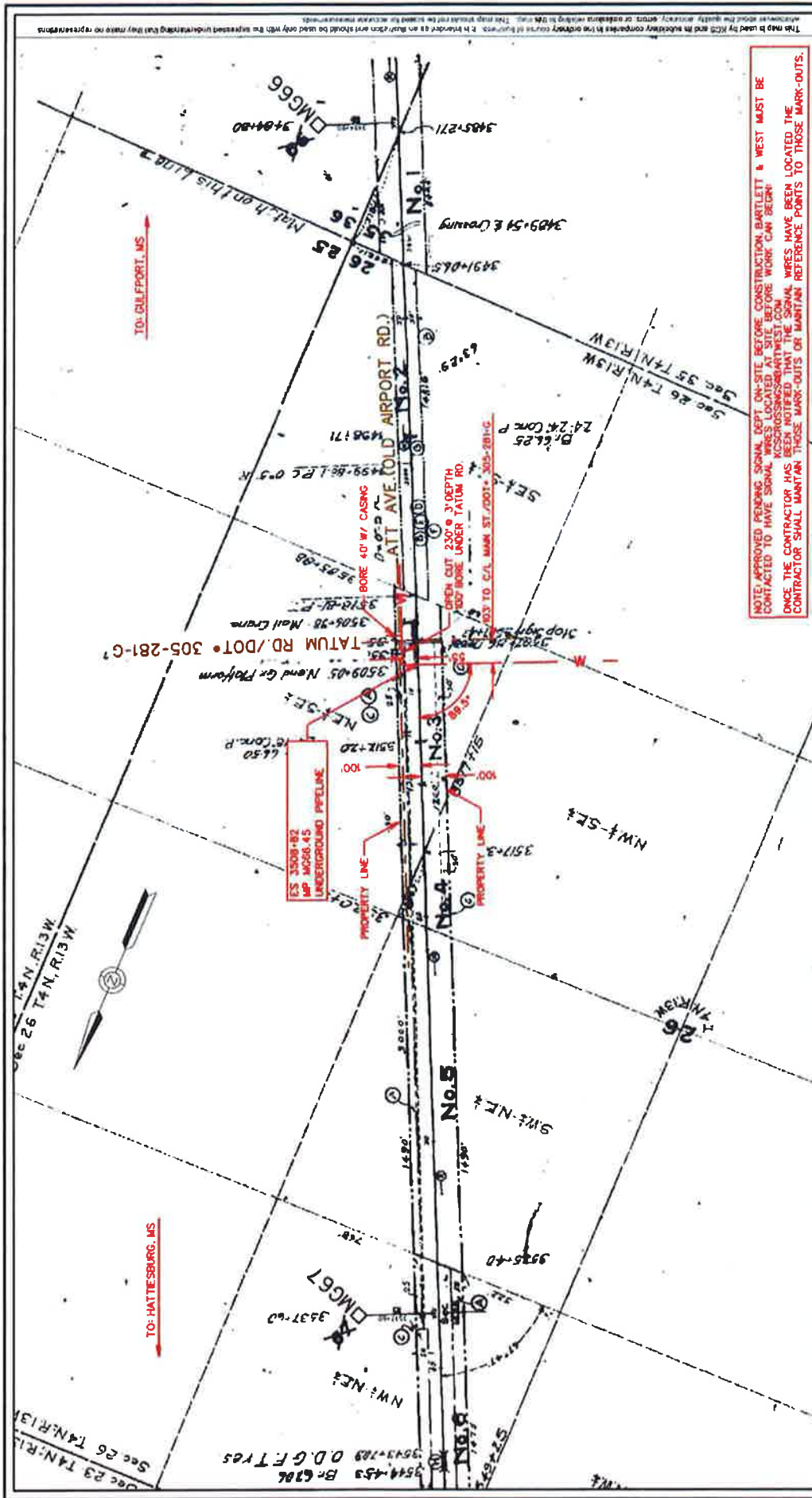
GRAPHIC SCALE

VICINITY MAP

COMPREHENSIVE WATER IMPROVEMENTS - PHASE II  
CITY OF HATTIESBURG  
FORREST COUNTY, MISSISSIPPI

SDW

Engineering Program  
Project No. 123-0001  
Drawing No. 2



# **SPECIFICATIONS:**

CONTENTS	CARRIER	CAUSING	INSTALLATION DETAILS
LENGTH OF PIPE ON R/W	WATER	N/A	METHOD OF INSTALLATION: DRY BORE & JACKOVER CUT
PIPE MATERIAL	HDPE	36"	BURIED EAST OF RAIL 12"
PIPE WALL THICKNESS	HDPE	36"	BURIED WEST OF RAIL 12"
MAX. VELD.	200 PSI	36"	CATODIC PROTECTION: NONE
WALL THICKNESS	1.77"	36"	CASING VENTED: NO - VENTS ABOVE SURFACE N/A
WORKING PRESSURE	45 PSI	36"	NUMBER OF VENTS: N/A - TYPE: (N/A)
COATING	NONE	36"	PARALLEL DISTANCE FROM C/L OF TRACON: N/A

**KANSAS CITY SOUTHERN  
RAILWAY COMPANY**



Date: 06-22-2017 APPROVED BY:

Drawn By: JFB

Checked By: TRP

Company: BARTLETT & WEST

Sheet No: 1 of 1 Map #: 29025

Scale: 1" = 400' KCS FILE NO:

**EXHIBIT "A"**

**PROPOSED UNDERGROUND  
WATER PIPELINE CROSSING FOR  
CITY OF HATTIESBURG  
AT MP MG66.45 GULFPORT SUBD.**

**17-3250**

**HATTIESBURG, MS (31.277967, -89.286009)**

Date: 5/24/2017

File: 17-3250

## CONTRACT SUMMARY and APPROVAL SHEET

Parties: KCS and City of Hattiesburg

Description: 16" HDPE Underground Water Line

Location: MP 066.53; Hattiesburg, MS

Term: Indefinitely, unless line interferes with Railway operations

### Location Identification:

Subdivision: **Gulfport**

Casing Diameter: **20"**

Drawing No. **SD-17-2-066.53**

Casing Material: **Steel**

Near DOT # **305-281 G**

Length of Casing Pipe: **200'**

Type of Line: **Water Line**

Method of Installation: **Dry Bore & Jack**

Run of Line: **Underground & Parallel**

Depth: **10'**

Width of KCSR ROW: **200'**

Distance to Crossing: **103' North from the centerline of Tatum Road at MP 066.52 and parallel for approximately 160' on the eastern side of the rail at 55' from the tracks; Hattiesburg, MS**

### JaKay Summary:

KCS RAILWAY MAINTAINS FLASHERS AT TATUM ROAD AT MP 066.52, DOT #305-281 G. KCSR HAS UG WIRES IN THIS AREA, HOWEVER WE THINK THE WATER LINE WILL NOT INTERFERE WITH ANY KCSR OPERATIONS BECAUSE OF THE FOLLOWING:

- A) THE UG LINE WILL BE 103' FROM THE CENTERLINE OF THE ROAD CROSSING.
- B) THE UG LINE WILL BE 10' BELOW RAIL AND 6' BELOW GROUND FOR THE ENTIRE ROW.**
- C) THE UG LINE WILL BE INSTALLED USING DRY BORE & JACK UNDER THE TRACK AND WITH OPEN CUT FOR THE PARALLEL PORTION AT 3' DEEP.
- D) THE PARALLEL PORTION WILL BE 55' FROM THE TRACKS FOR THE ENTIRE 160' PARALLEL RUN ON THE KCS ROW.

### Recommendation:

- ☒ **APPROVED PENDING SIGNAL DEPT ON-SITE BEFORE CONSTRUCTION, BARTLETT & WEST MUST BE CONTACTED TO HAVE SIGNAL WIRES LOCATED AT SITE BEFORE WORK CAN BEGIN:**

**[kcscrossings@bartwest.com](mailto:kcscrossings@bartwest.com)**

**ONCE THE CONTRACTOR HAS BEEN NOTIFIED THAT THE SIGNAL WIRES HAVE BEEN LOCATED, THE CONTRACTOR SHALL MAINTAIN THOSE MARK-OUTS OR MAINTAIN REFERENCE POINTS TO THOSE MARK-OUTS.**

- ☐ **APPROVED (On-Site not required)**

- ☐ **DENIED**

Dates Reviewed and Approved:

7/7/2017

Heather Van Hoecke  
JaKay Signaling Inc.

6/14/2017

Carmen Wallace  
Kansas City Southern Railway

JaKay Signaling Inc.  
816-350-3001 ext. 100













Google Earth

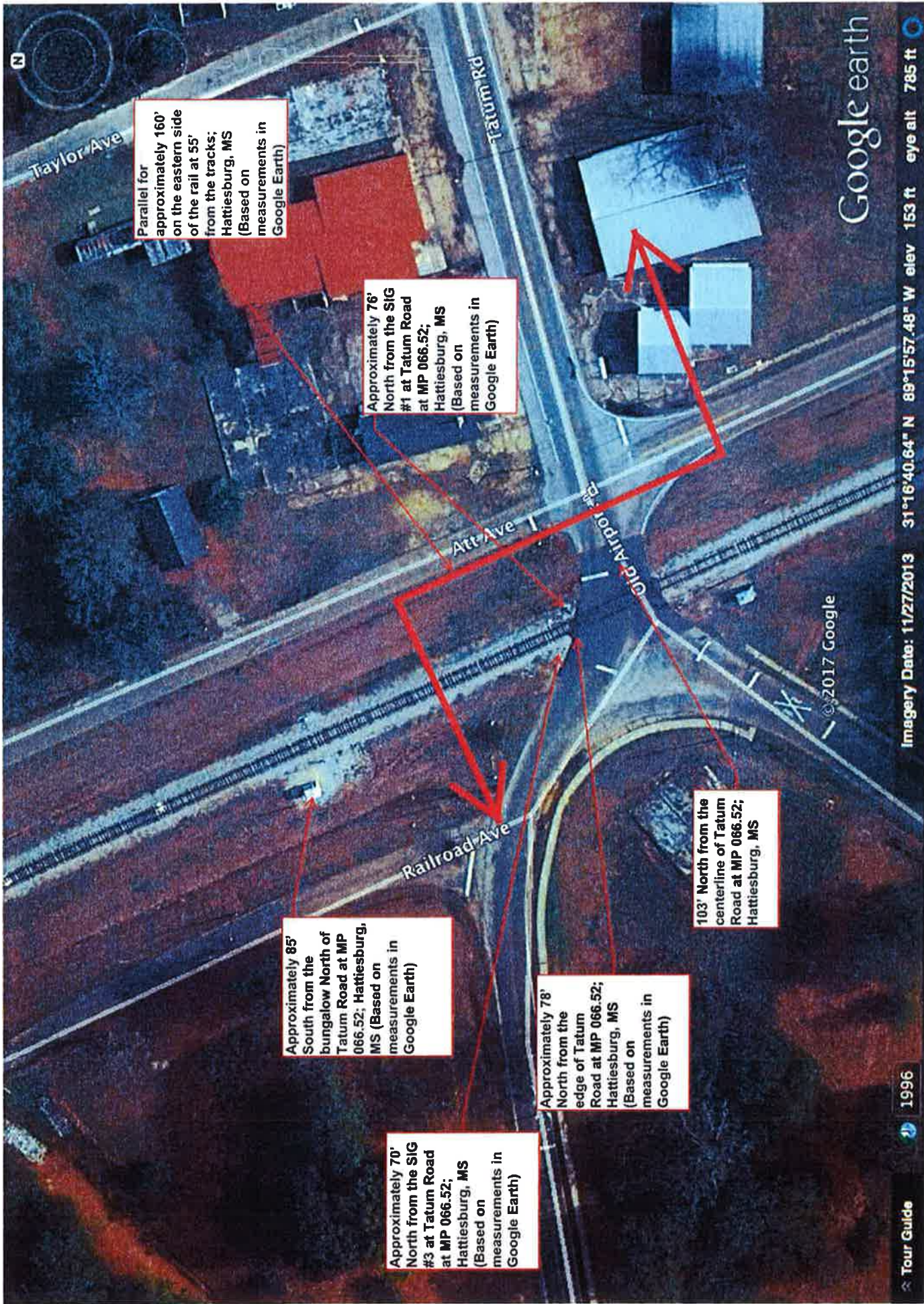
© 2017 Google

Imagery Date: 11/27/2013 31°16'38.28" N 89°15'54.97" W elev 151 ft eye alt 9184 ft

1996

Tour Guide





Parallel for  
approximately 160'  
on the eastern side  
of the rail at 55'  
from the tracks;  
Hattiesburg, MS  
(Based on  
measurements in  
Google Earth)

Approximately 76'  
North from the SIG  
#1 at Tatum Road  
at MP 066.52;  
Hattiesburg, MS  
(Based on  
measurements in  
Google Earth)

Approximately 85'  
South from the  
bungalow North of  
Tatum Road at MP  
066.52; Hattiesburg,  
MS (Based on  
measurements in  
Google Earth)

Approximately 70'  
North from the SIG  
#3 at Tatum Road  
at MP 066.52;  
Hattiesburg, MS  
(Based on  
measurements in  
Google Earth)

Approximately 78'  
North from the  
edge of Tatum  
Road at MP 066.52;  
Hattiesburg, MS  
(Based on  
measurements in  
Google Earth)

103' North from the  
centerline of Tatum  
Road at MP 066.52;  
Hattiesburg, MS

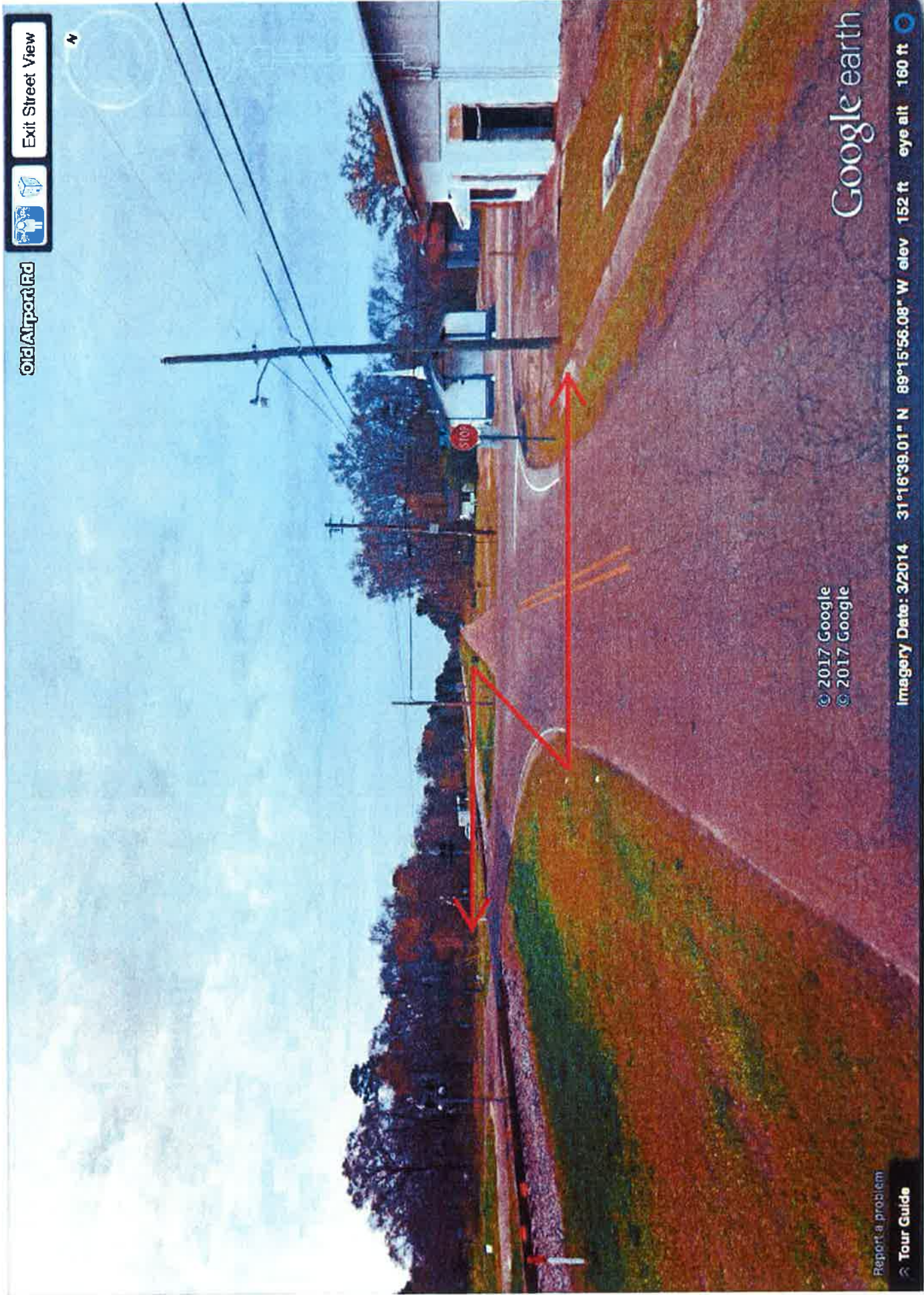
Google earth

Imagery Date: 11/27/2013 31°16'40.64" N 89°15'57.48" W elev 153 ft eye alt 785 ft

1996

Tour Guide





Exit Street View



Old Airport Rd

Google earth

© 2017 Google  
© 2017 Google

Report a problem

Tour Guide

Imagery Date: 3/2014

31°16'39.01" N

89°15'58.08" W

elev 152 ft

eye alt 160 ft



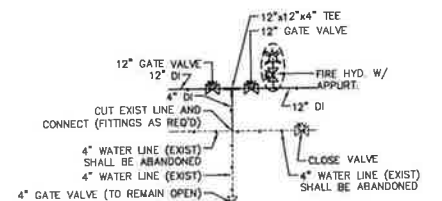
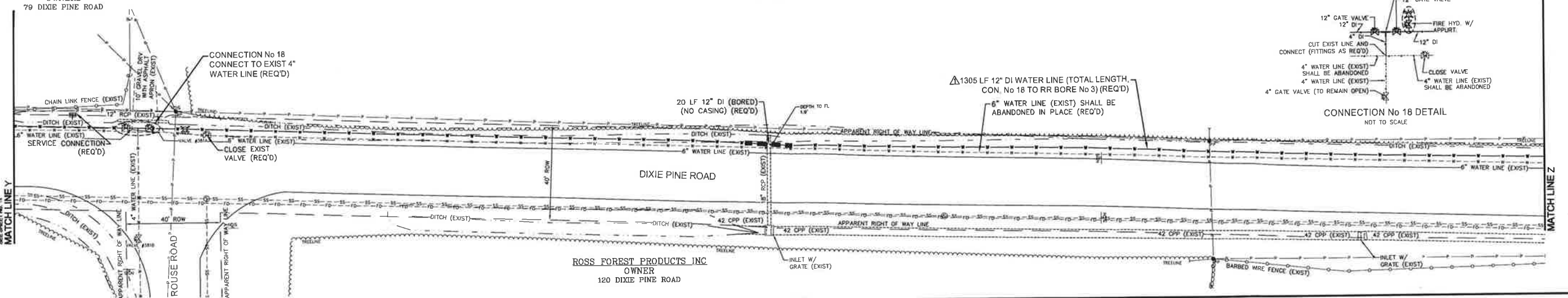






STEVEN & ZANDRA HEILMEIER  
OWNERS  
79 DIXIE PINE ROAD

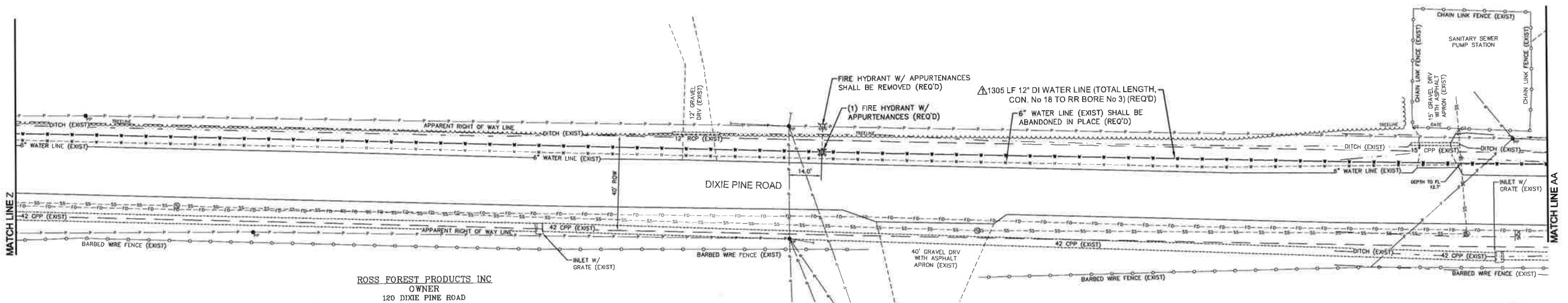
JOHN C NELSON  
OWNER



CONNECTION No 18 DETAIL  
NOT TO SCALE

JOHN C NELSON  
OWNER

ROSS FOREST PRODUCTS INC  
OWNER  
120 DIXIE PINE ROAD



NOTES:

1. THE APPROVED RAILROAD PERMIT SHALL BE REQUIRED FOR ALL WORK PERFORMED ON RAILROAD RIGHT OF WAY. THE APPROVED RAILROAD PERMIT SHALL BE CONSIDERED A PART OF THESE PLANS. ALL COSTS ASSOCIATED WITH THE RAILROAD PERMIT, INCLUDING BUT NOT LIMITED TO THE FLAG-MAN, INSURANCE, BONDS, ETC, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE PROJECT.
2. ALL WORK IMPACTING THE RAILROAD AND SPURS SHALL ALSO BE COORDINATED WITH RESINALL MS, INC.
3. RESINALL MS, INC IS A 24HR/DAY, 7 DAYS/WEEK INDUSTRIAL PLANT. SERVICE INTERRUPTIONS SHALL BE COORDINATED WITH THE PLANT MAINTENANCE SUPERVISOR. (601.584.6221)

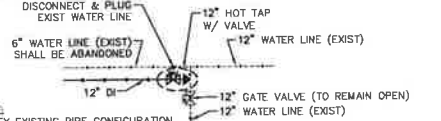
HATTIESBURG CONCRETE PRODUCTS INC  
OWNER

- (1) FIRE HYDRANT W/ APPURTENANCES SHALL BE REMOVED (REQ'D)  
(VERIFY WHICH HYD IS CONNECTED TO EXIST 12\"/>

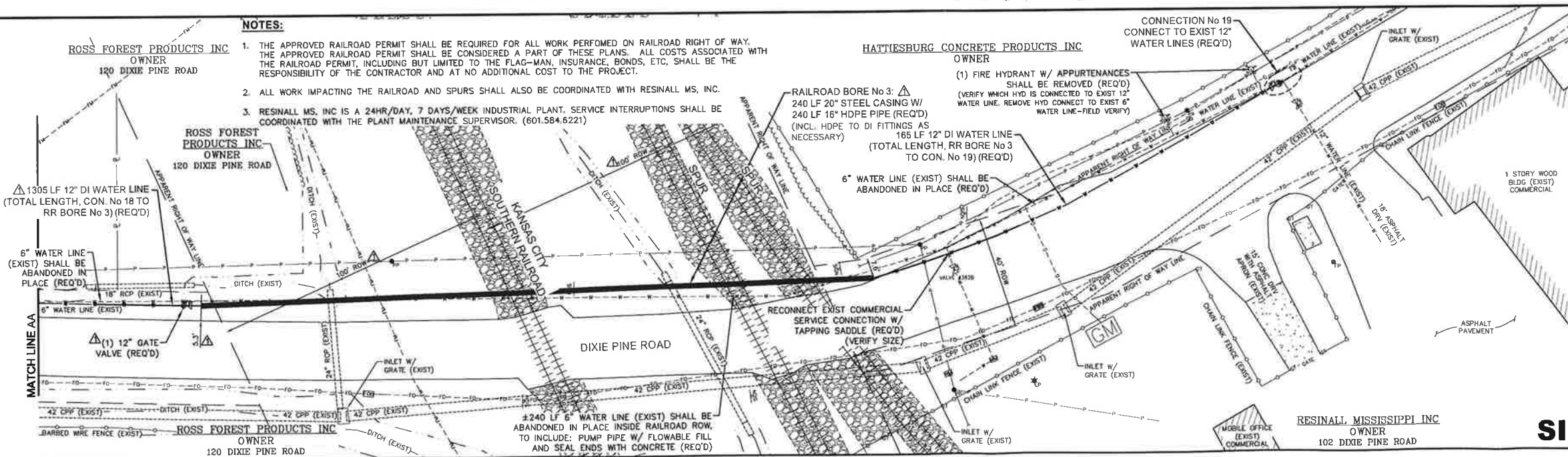
RAILROAD BORE No 3:  
240 LF 20\"/>

RECONNECT EXIST COMMERCIAL  
SERVICE CONNECTION W/  
TAPPING SADDLE (REQ'D)  
(VERIFY SIZE)

CONNECTION No 19  
CONNECT TO EXIST 12\"/>



CONNECTION No 19 DETAIL  
NOT TO SCALE

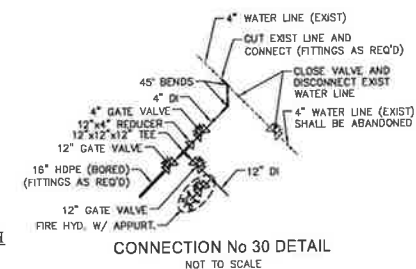


1 STORY WOOD  
BLDG (EXIST)  
COMMERCIAL

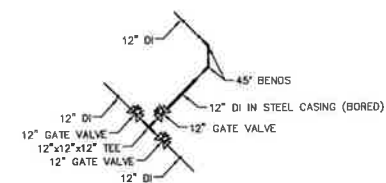
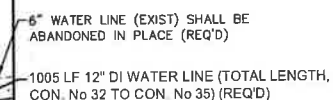
RESINALL, MISSISSIPPI INC  
OWNER  
102 DIXIE PINE ROAD

**SITE 4**

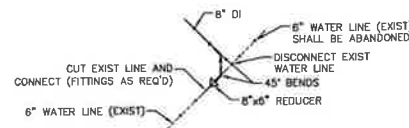
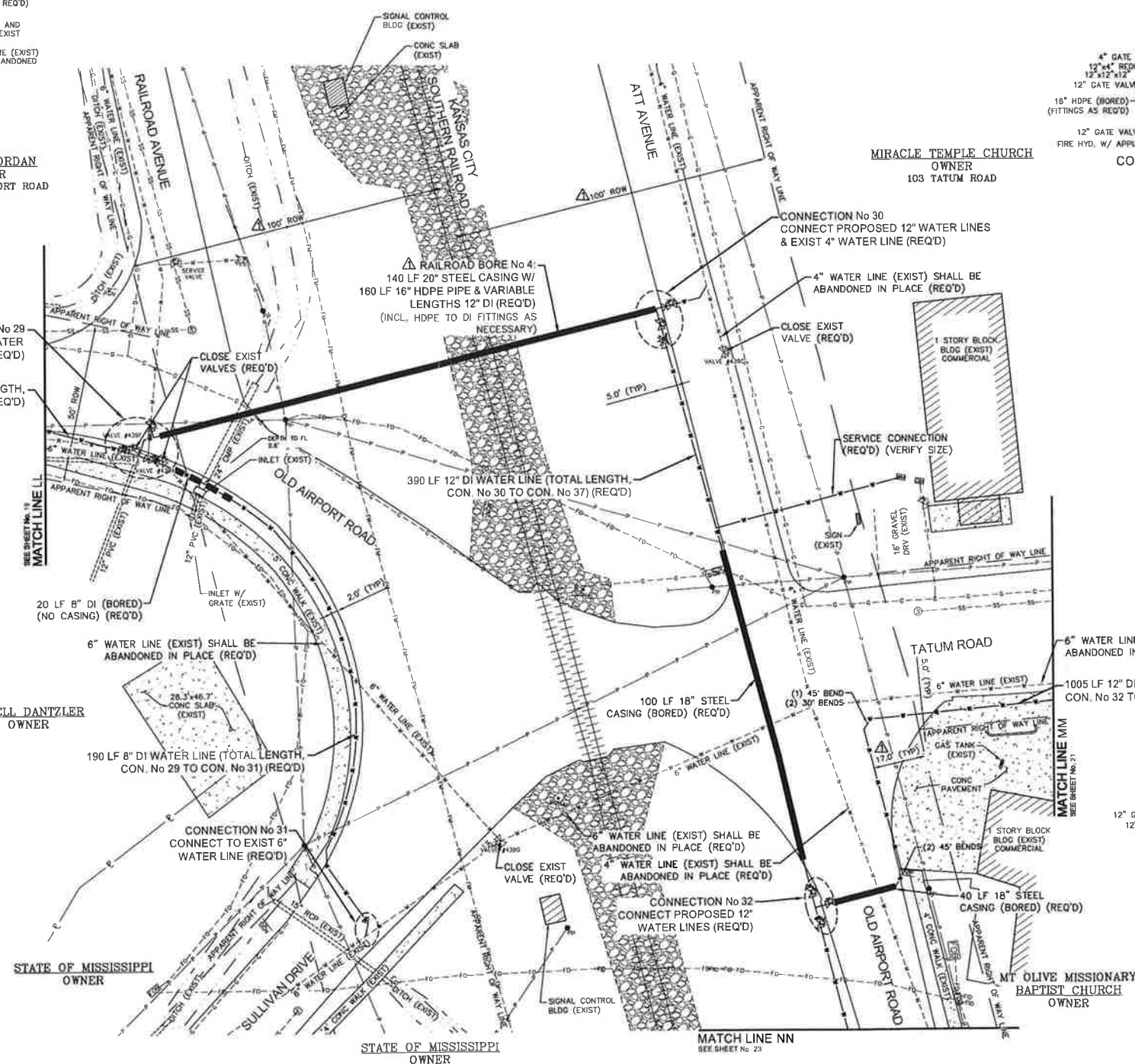
DIXIE PINE ROAD - PLAN			
COMPREHENSIVE WATER IMPROVEMENTS - PHASE II			
CITY OF HATTIESBURG			
FORREST COUNTY, MISSISSIPPI			
301 Second Ave., Hattiesburg, MS 39401   (601) 544-7071   (601) 544-0501   sdw.com			
Drawn by: RES	Checked by: KDW		
Date: 01-16-2015	Scale: 1" = 20'		
Drawing No.: 1273-W007	Sheet No.: 15		



MIRACLE TEMPLE CHURCH  
OWNER  
103 TATUM ROAD



CONNECTION No 32 DETAIL  
NOT TO SCALE



CONNECTION No 31 DETAIL  
NOT TO SCALE

**NOTES:**

1. THE APPROVED RAILROAD PERMIT SHALL BE REQUIRED FOR ALL WORK PERFORMED ON RAILROAD RIGHT OF WAY. THE APPROVED RAILROAD PERMIT SHALL BE CONSIDERED A PART OF THESE PLANS. ALL COSTS ASSOCIATED WITH THE RAILROAD PERMIT, INCLUDING BUT NOT LIMITED TO THE FLAG-MAN, INSURANCE, BONDS, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE PROJECT.
2. ALL WATER LINE SHOWN TO BE ABANDONED INSIDE THE RAILROAD RIGHT OF WAY SHALL BE ABANDONED AS FOLLOWS: PUMP PIPE W/ FLOWABLE FILL AND SEAL ENDS WITH CONCRETE (REQ'D)


A 1 05/04/17 REVISED WATER LINE LOCATION RES  
NO. DATE DESCRIPTION BY

# OLD AIRPORT ROAD – PLAN

## COMPREHENSIVE WATER IMPROVEMENTS – PHASE II CITY OF HATTIESBURG FORREST COUNTY, MISSISSIPPI



**Engineering Progress**

301 Second Ave., | Hattiesburg, MS 39401 | (p) 601-544-2021 | (f) 601-544-0501 | sdw@comcast.net

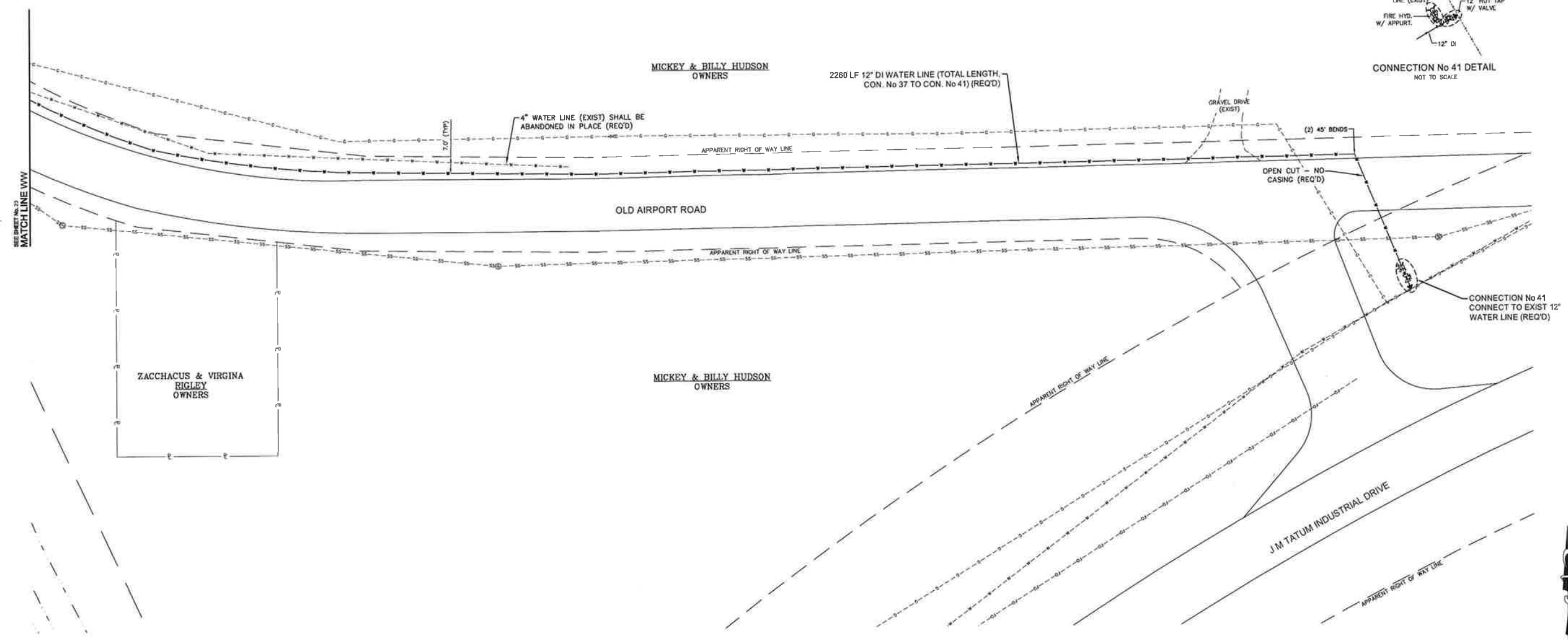
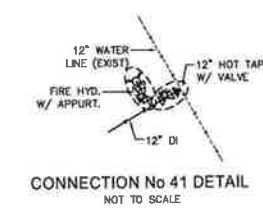
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Date: 01–16–2015	Scale: 1" = 20'
Drawing No.: 1273-WD007	Sheet No. 20

## SITE 6



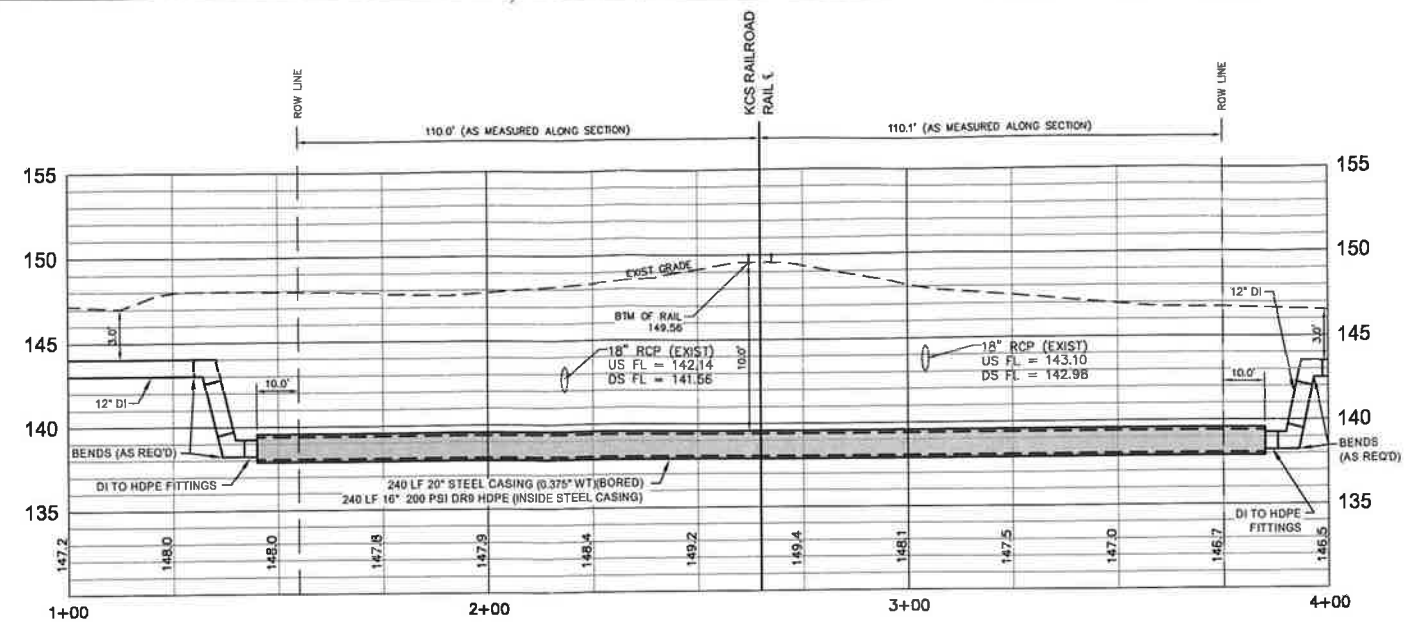






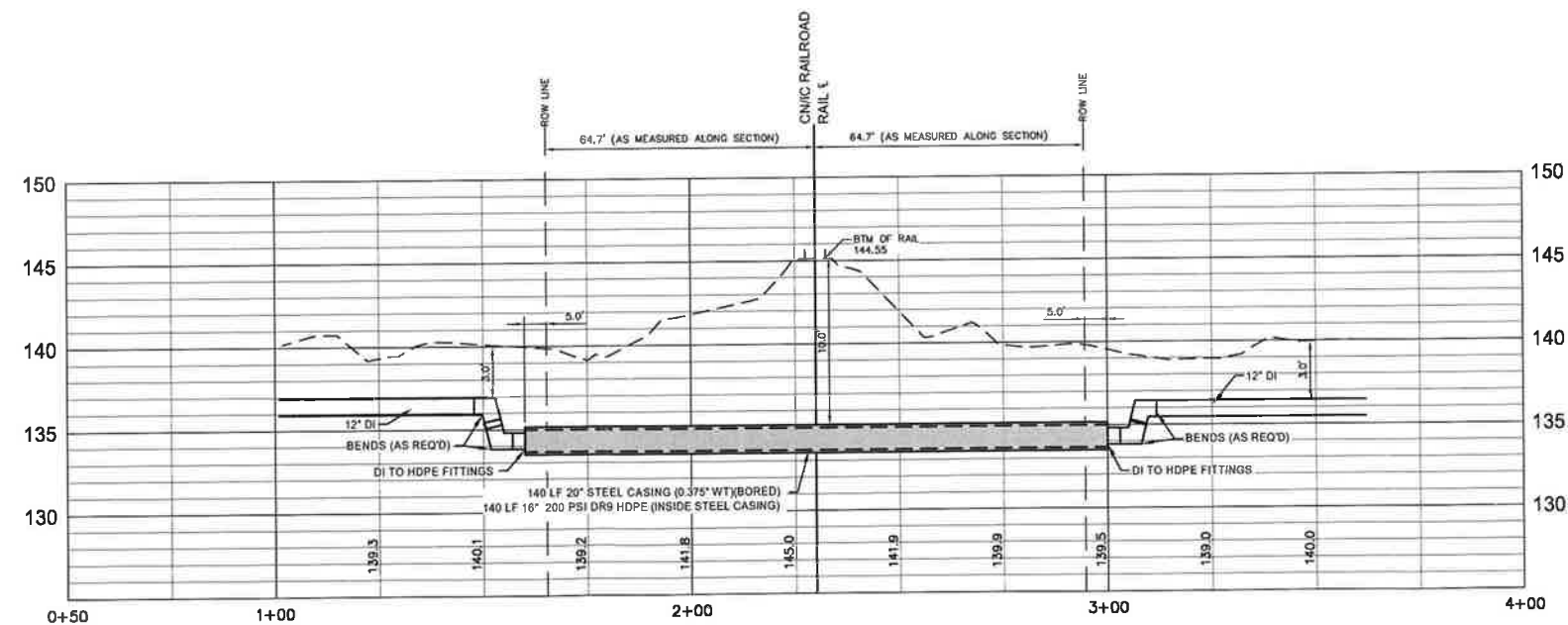
1	03/03/17	REVISED WATER LINE LOCATION	RES
NO.	DATE	DESCRIPTION	BY
JM TATUM INDUSTRIAL DRIVE - PLAN			
COMPREHENSIVE WATER IMPROVEMENTS - PHASE II			
CITY OF HATTIESBURG			
FORREST COUNTY, MISSISSIPPI			
301 Second Ave., Hattiesburg, MS 39401   Tel: 601.544.3921   Fax: 601.544.0501   sdw.com			
Drawn by: RES		Checked by: KDW	
Date: 01-16-2015		Scale: 1" = 20'	
Drawing No.: 1273-W007		Sheet No.: 24	

**SITE 8**



# CROSS SECTION - RAILROAD BORE No. 1

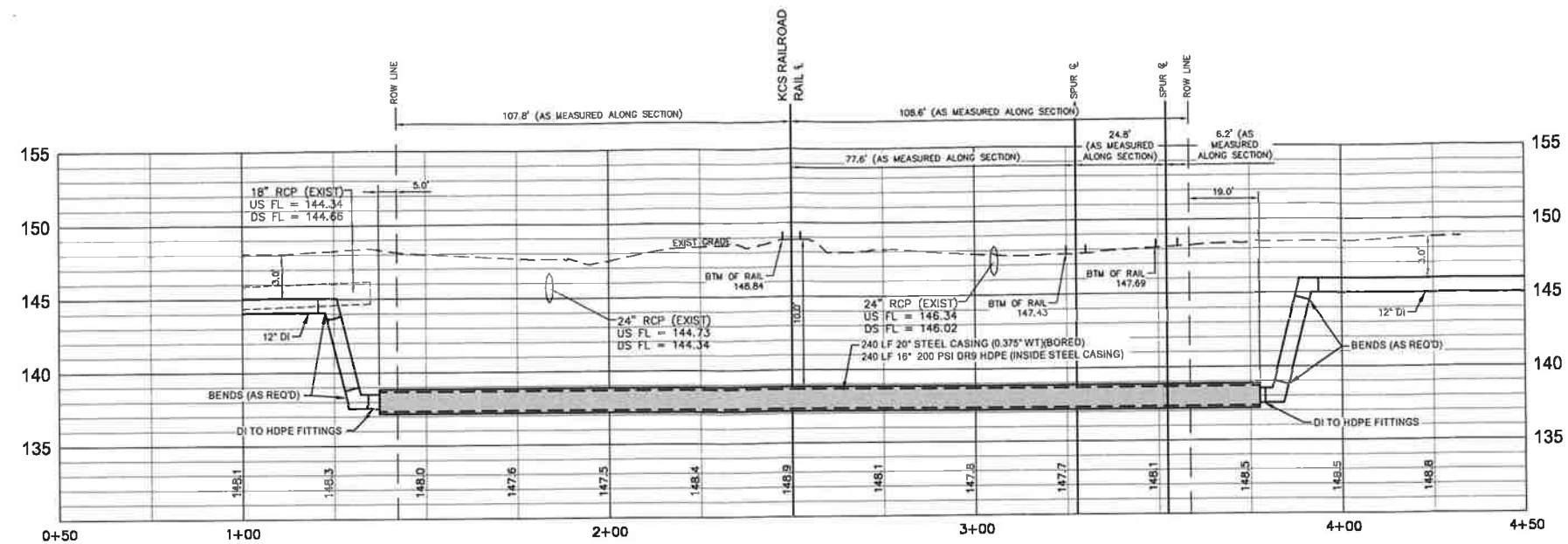
## KANSAS CITY SOUTHERN RAILROAD AT BARKLEY ROAD



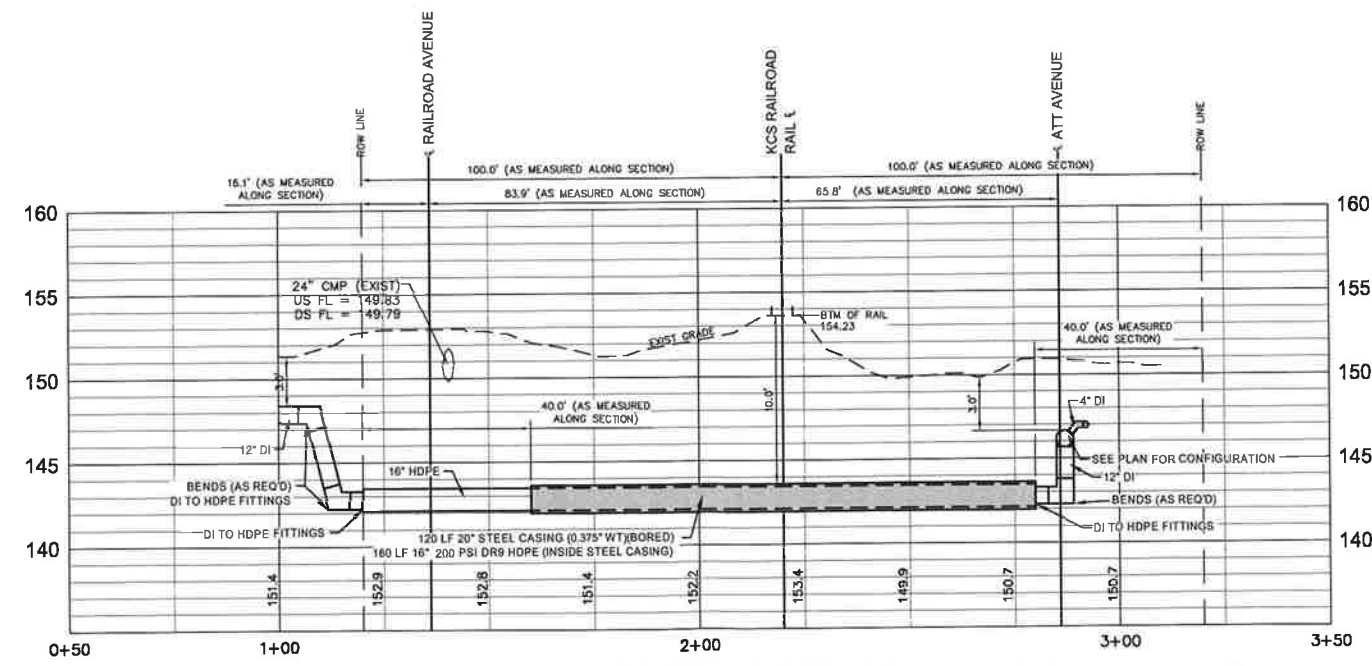
## CROSS SECTION - RAILROAD BORE No. 2

CANADIAN NATION/ILLINOIS CENTRAL RAILROAD AT BARKLEY ROAD

A	1	05/08/17	REVISED SECTION	RES
	NO.	DATE	DESCRIPTION	BY
<b>RAILROAD BORE CROSS SECTIONS</b>				
<b>COMPREHENSIVE WATER IMPROVEMENTS – PHASE II</b>				
<b>CITY OF HATTIESBURG</b>				
<b>FORREST COUNTY, MISSISSIPPI</b>				
 Engineering Progress				
301 Second Ave., Hattiesburg, MS 39401   (601) 544-1821   (601) 544-0921   sdw@comcast.net				
Drawn by: RES			Checked by: KDW	
Date: 01-16-2015			Scale: 1"=20' H, 1"=5' V	
Drawing No.: 1273-W007			Sheet No. 25	



**CROSS SECTION - RAILROAD BORE No. 3**  $\Delta$   
 KANSAS CITY SOUTHERN RAILROAD AT DIXIE PINE ROAD



**CROSS SECTION - RAILROAD BORE No. 4**  $\Delta$   
 KANSAS CITY SOUTHERN RAILROAD AT OLD AIRPORT ROAD

$\Delta$ 1	05/08/17	REVISED SECTION	RES
NO.	DATE	DESCRIPTION	BY
RAILROAD BORE CROSS SECTIONS			
COMPREHENSIVE WATER IMPROVEMENTS - PHASE II			
CITY OF HATTIESBURG			
FORREST COUNTY, MISSISSIPPI			
 301 Second Ave., Hattiesburg, MS 39401   (601) 544-1021   (601) 544-0503   sdw.com			
Drawn by: RES		Checked by: KDW	
Date: 01-16-2015		Scale: 1"=20' H, 1"=5' V	
Drawing No.: 1273-W007		Sheet No. 26	

C:\PROJECTS\Hattiesburg_City\1273-W007 - COMPREHENSIVE Water Improvements Phase II\Railroad Bore Cross Sections and Bore Changel\1273-W007.dwg 3/2/2015 2:07:28 PM

**ADDENDUM No. 5**  
**to the**  
**CONTRACT DOCUMENTS and SPECIFICATIONS**  
**for the**  
**COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL**  
**AREAS**  
**CITY of HATTIESBURG**

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

**CHANGE No. 1 -** The bid date of the project is changed to July 20, 2017. Bid time, location, etc. shall remain unchanged.

by:  **SHOWS: DEARMAN & WAITS, INC.**  
_____  
Kyle Wallace, P.E.  
6/29/17

**CITY OF HATTIESBURG**  
by: _____  
Kermas Eaton, City Clerk

Dated this 30th day of June, 2017.

**The receipt of this Addendum shall be indicated by signature on the line below.**  
**A signed copy of the Addendum shall accompany the Bid Proposal.**

**Contractor:** L. B. Developers, Inc.

**Signature:** 

**Title:** P.M.

**ADDENDUM No. 4**  
**to the**  
**CONTRACT DOCUMENTS and SPECIFICATIONS**  
**for the**  
**COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL**  
**AREAS**  
**CITY of HATTIESBURG**

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

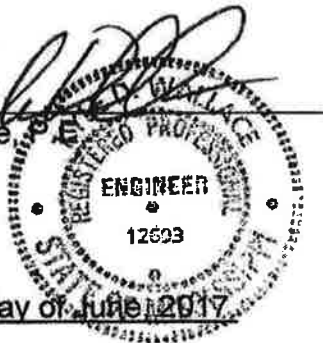
**CHANGE No. 1 -** The bid date of the project is changed to July 6, 2017. Bid time, location, etc. shall remain unchanged.

**SHOWS, DEARMAN & WAITS, INC.**

**CITY OF HATTIESBURG**

by:

Kyle Wallace



by:

Kermas Eaton, City Clerk

Dated this 19th day of June 2017

The receipt of this Addendum shall be indicated by signature on the line below.  
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: L.B. Developers, Inc.

Signature: _____

Title: P.M.

**ADDENDUM No. 3**  
**to the**  
**CONTRACT DOCUMENTS and SPECIFICATIONS**  
**for the**  
**COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL**  
**AREAS**  
**CITY of HATTIESBURG**

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

**CHANGE No. 1 -** The bid date of the project is changed to June 22, 2017. Bid time, location, etc. shall remain unchanged.

**SHOWS, DEARMAN & WAITS, INC.**

**CITY OF HATTIESBURG**

by:

  
_____  
Kyle Wallace, P.E.  
  
ENGINEER  
12693  
STATE OF MISSISSIPPI

by:

  
_____  
Kermas Eaton, City Clerk

Dated this 5th day of June, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.  
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: L. B. Developers, Inc.

Signature:   
_____

Title: P.M.  
_____

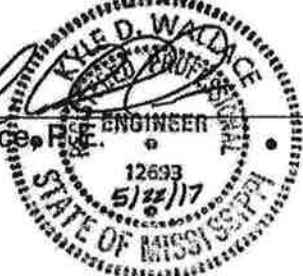
**ADDENDUM No. 2**  
**to the**  
**CONTRACT DOCUMENTS and SPECIFICATIONS**  
**for the**  
**COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL**  
**AREAS**  
**CITY of HATTIESBURG**

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

**CHANGE No. 1 -** The bid date of the project is changed to June 8, 2017. Bid time, location, etc. shall remain unchanged.

**SHOWS, DEARMAN & WAITS, INC.**

by:

  
_____  
Kyle Wallace, P.E.  


**CITY OF HATTIESBURG**

by:

  
_____  
Kermas Eaton, City Clerk

Dated this 22th day of May, 2017.

**The receipt of this Addendum shall be indicated by signature on the line below.**  
**A signed copy of the Addendum shall accompany the Bid Proposal.**

**Contractor:** L. B. Developers, Inc.

**Signature:** _____

**Title:** P.M.

**ADDENDUM No. 1**  
**to the**  
**CONTRACT DOCUMENTS and SPECIFICATIONS**  
**for the**  
**COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL**  
**AREAS**  
**CITY of HATTIESBURG**

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

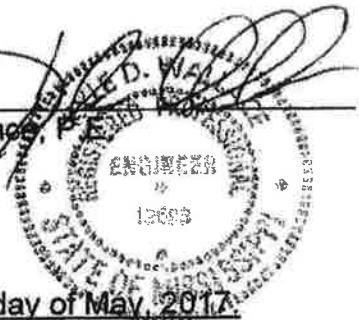
**CHANGE No. 1 -** The bid date of the project is changed to May 25, 2017. Bid time, location, etc. shall remain unchanged.

**SHOWS, DEARMAN & WAITS, INC.**

**CITY OF HATTIESBURG**

by:

Kyle Wallace



by:



Kermas Eaton, City Clerk

Dated this 8th day of May, 2017.

**The receipt of this Addendum shall be indicated by signature on the line below.**  
**A signed copy of the Addendum shall accompany the Bid Proposal.**

**Contractor:** L.B. Developers, Inc.

**Signature:** 

**Title:** P.M.



**SPECIFICATIONS AND CONTRACT DOCUMENTS**

**FOR**

**COMPREHENSIVE WATER IMPROVEMENTS PHASE II  
PALMERS CROSSING AND IRENE CHAPEL**

**FOR THE**

**CITY OF HATTIESBURG  
FORREST COUNTY  
MISSISSIPPI**

**JANUARY 2017**



**PREPARED BY:**

**SHOWS, DEARMAN & WAITS, INC.  
CONSULTING ENGINEERS  
301 SECOND AVENUE  
HATTIESBURG, MISSISSIPPI  
(601) 544-1821**

## INDEX

ADVERTISEMENTS FOR BIDS.....	1
INFORMATION FOR BIDDERS.....	2-4
PROPOSAL FORM.....	5-9
BID BOND.....	10-11
CONTRACT AGREEMENT.....	12-14
PAYMENT & PERFORMANCE BOND.....	15-16
NOTICE OF AWARD.....	17
NOTICE TO PROCEED.....	18
GENERAL CONDITIONS.....	19-56
MEASUREMENT AND PAYMENT.....	57-60
TECHNICAL SPECIFICATIONS:	
Water Systems.....	61-79
Restoration of Roads, Driveways, Fences, Lawns & Other Grassed Areas.....	80-84
Seeding and Sodding.....	85-89
Fire Hydrant.....	90-92



## **ADVERTISEMENT FOR BIDS**

NOTICE is hereby given that the City Clerk of the City of Hattiesburg, Mississippi, will receive sealed bids until 10:00 a.m. on May 11, 2017 in the City Clerk's Office in the City Hall at 200 Forrest Street of said City for furnishing the City's requirements for the following:

### **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL HATTIESBURG, MISSISSIPPI**

Plans, Specifications and proposal forms may be obtained from Shows, Dearman & Waits, Inc., 301 Second Avenue, Hattiesburg, Mississippi, 39401, upon deposit of \$150.00, non-refundable. All bids must be accompanied by bid security equal to 5% of the amount of the bid, in the form of a certified check, cashier's check or a bid bond written by a company properly licensed in Mississippi.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner EXACTLY as follows:

BID:

### **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL HATTIESBURG, MISSISSIPPI**

No bid may be withdrawn for a period of sixty (60) days. The lowest and best proposal received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated and Amended, and other applicable State law; but the Council reserves the right to reject any or all proposals received and to waive informalities.

PUBLISHED by Order of the Council on the ____ day of _____ A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: _____  
Kermas Eaton, City Clerk

Publish on March 31, 2017 and April 7, 2017  
City of Hattiesburg  
Return PROOF to City Clerk's Office  
PO Box 1898  
Hattiesburg, MS 39403-1898

## **INFORMATION FOR BIDDERS**

BIDS will be received by the CITY OF HATTIESBURG, MISSISSIPPI herein called the "OWNER", at City Hall until 10:00 a.m. on May 11, 2017, and then at said office publicly opened and read aloud.

Each BID must be submitted in sealed envelope, addressed to City of Hattiesburg. Each sealed envelope containing a BID must be plainly marked on the outside as BID for **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL** and the envelope should bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed addressed to the Owner at P. O. Box 1898, Hattiesburg, MS 39403

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a BID BOND payable to the OWNER for five percent (5%) of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsive, responsible

BIDDERS. When the Agreement is executed the BONDS of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a BID BOND.

A PERFORMANCE BOND and a PAYMENT BOND, each in the amount of 100 percent (100%) of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dated copy of their Power of Attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period; the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible BIDDER.

All applicable Laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

FURTHER, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER is SHOWS, DEARMAN & WAITS, INC. The address of the ENGINEER is 301 2nd Avenue, Hattiesburg, MS 39401.

## PROPOSAL FORM

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 180 calendar days thereafter. The undersigned further agrees that the unit bid price quoted includes all items of work required or necessary for the accomplishment of the projected work. BIDDERS agree to perform all the work described in the CONTRACT DOCUMENTS for the following unit bid prices:

Proposal			:		
Comprehensive Water Improvements - Phase II					
Palmers Crossing and Irene Chapel Areas - City of Hattiesburg					
Item	Description	Unit	Quantity	Unit Price	Extension
	<b>Water Pipe Items</b>				
1	4" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	260		
2	6" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	280		
3	8" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	590		
4	12" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	27,159		
5	12" Class 350 Ductile Iron Water Pipe (Bored - No Casing)	Lin. Ft.	1,090		
6	16" 200 PSI, DR9, HDPE (Open Cut) (Incl. adapter fittings)	Lin. Ft.	620		
7	16" 200 PSI, DR9, HDPE (Direction Bore) (Incl. adapter fittings)	Lin. Ft.	460		
	<b>Casing Items</b>				
8	18" Steel Casing, 0.25" WT (Open Cut)	Lin. Ft.	20		
9	14" Steel Casing, 0.25" WT (Bored)	Lin. Ft.	40		
10	18" Steel Casing, 0.25" WT (Bored)	Lin. Ft.	610		
11	20" Steel Casing, 0.375" WT (Bored - Railroad)	Lin. Ft.	580		

	<b>Connection Items</b>						
12	Connection: Proposed 12" to Existing 12" (Straight Connection w/ fittings)	Each	2				
13	Connection: Proposed 12" to Existing 12" (Hot Tap w/ Valve Assembly & other fittings)	Each	3				
14	Connection: Proposed 12" to Proposed 12" (Tee & other fittings)	Each	5				
15	Connection: Proposed 12" to Proposed 12" & 8" (Tee & other fittings)	Each	1				
16	Connection: Proposed 12" to Proposed 8" (Tee & other fittings)	Each	2				
17	Connection: Proposed 12" to Proposed 12" & Existing 8" & 6" (Tees & other fittings)	Each	1				
18	Connection: Proposed 12" to Proposed 12" & Existing 4" (Tee & other fittings)	Each	2				
19	Connection: Proposed 12" to Existing 6" (Tee & other fittings)	Each	10				
20	Connection: Proposed 12" to Existing 6" & 4" (Tees & other fittings)	Each	1				
21	Connection: Proposed 12" to Existing 6" & 4" (Cross & other fittings)	Each	1				
22	Connection: Proposed 12" to Existing 4" (Tee & other fittings)	Each	12				
23	Connection: Proposed 8" to Existing 12" (Hot Tap w/ Valve Assembly & other fittings)	Each	1				
24	Connection: Proposed 8" to Existing 6" (Tee & other fittings)	Each	1				
25	Connection: Proposed 8" to Existing 6" & 4" (Tees & other fittings)	Each	1				
	<b>Valve Items</b>						
26	4" Gate Valve	Each	9				
27	6" Gate Valve	Each	14				
28	8" Gate Valve	Each	4				
29	12" Gate Valve	Each	66				



	<b>Fire Protection Items</b>				
30	3 Way Fire Hydrant w/ Appurtenances (Incl. Tee, Valve, Hydrant, Brass Tag, Pipe, & other fittings)	Each	42		
31	6" Fire Suppression System Connection (Incl. Tee, Valve, Pipe, Disconnection of Existing System, Connection to Existing Fire System, etc.)	Each	1		
	<b>Service Items</b>				
32	Residential Service Tap (All Sizes) (Incl: Open Cut Service Tubing, Tapping Saddle, Corp Stop, etc)	Each	99		
33	Commercial Service Tap (All Sizes) (Incl: Open Cut Service Tubing, Tapping Saddle, Corp Stop, etc)	Each	17		
34	Service Tubing (Bored) (All Sizes)	LF	1,585		
35	Residential Meter (Incl: Meter, Meter Box, City Fees, etc)	Each	15		
	<b>Removal Items</b>				
36	Removal of Fire Hydrant and Appurtenances	Each	24		
37	Abandonment of Exist. Water Lines with flowable Fill	LF	600		
38	Remove and Reset Existing Storm Sewer Culverts (All Sizes)	Lump Sum	1		
	<b>Miscellaneous Construction Items</b>				
39	Select Fill Material (Class 9, Group C), LVM for Gravel Driveway Repair	CY	35		
40	Asphalt Pavement Repair (All Depths)	TON	450		
41	Concrete Pavement Repair (All Depths)	SY	338		
42	Concrete Curb and Gutter Repair (Match Existing in kind)	LF	25		
43	Temporary Erosion Control	Lump Sum	1		

44	Grassing		Lump Sum	1		
45	Maintenance of Traffic		Lump Sum	1		
46	Mobilization		Lump Sum	1		
						Project Total:

Note: All materials and components shall be a product of the U.S.A.

If within thirty (30) days of the scheduled closing time for receipt of bids, this Proposal is accepted, the undersigned will execute a formal contract within ten (10) days after official notification thereof, will deliver a surety bond for the faithful performance of this contract, and will complete the work within the time specified from the date of execution of the contract.

L.B. Developers, Inc.

By: 

1716 Evelyn Gandy Pkwy  
Address Hattiesburg, MS 39401



## BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, C.B. Developers, Inc.  
as Principal, and Arch Insurance Company  
as Surety, are hereby held and firmly bound unto City of Hattiesburg  
as Owner, in the penal sum  
of Five Percent of Amount Bid DOLLARS  
( 5% ) for the payment of which, well and truly to be made, we  
hereby jointly and severally bind ourselves, successors and assigns. Signed, this  
20th day of July, 2017. The condition of the above obligation is  
such that whereas the Principal has submitted to City of Hattiesburg  
a certain BID, attached hereto and hereby made a part hereof to enter  
into a contract in writing for the Comprehensive Water Improvements- Phase II, Palmers  
Crossing and Irene Chapel

### NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID.

Then this obligation, shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way be impaired or affected by an extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper offices, the day and year first set forth above.

C.B. Developers, Inc.

By: _____

(Principal)

(L.S.)

Arch Insurance Company

(Surety)

By: _____

Brody Eric Buckley

Attorney-in-Fact

Resident MS Agent/Bottrell Insurance

**IMPORTANT:** Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

### **BID BOND**

KNOW ALL MEN BY THESE PRESENTS: that we, the under signed,  
_____Principal, and _____as Surety, are hereby  
held and firmly bound unto _____as Owner in the penal sum of 5%  
(Five Percent) for payment of which, well and truly to be made, we hereby jointly and  
severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20_____.

The Condition of the above obligation is such that whereas the Principal has submitted to  
a certain BID, attached hereto and hereby made a part hereof to enter into a contract in  
writing, for the following project:

#### **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL HATTIESBURG, MISSISSIPPI**

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in  
the Form of Contract attached hereto (properly completed in accordance with said BID)  
and shall furnish a BOND for his faithful performance of said contract, and for the  
payment of all persons performing labor or furnishing materials in connection therewith,  
and shall in all other respects perform the agreement created by the acceptance of said  
BID, then this obligation shall be void, otherwise the same shall remain in force and effect;  
it being expressly understood and agreed that the liability of the Surety for any and all  
claims hereunder shall, in no event, exceed the penal amount of this obligation as herein  
stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said  
Surety and its BOND shall be in no way impaired or affected by any extension of the time  
within which the OWNER may accept such BID; and said Surety does hereby waive notice  
of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and  
seals, and such of them as are corporations have caused their corporate seals to be hereto  
affixed and these presents to be signed by their proper officers, the day and year set forth  
above.

_____(L.S.)  
PRINCIPAL

_____  
SURETY

BY: _____

**IMPORTANT:** Surety companies executing BONDS must appear on the Treasure Department's most current line (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

***This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.***

## **POWER OF ATTORNEY**

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

**Brody Eric Buckley**

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations.

Surety Bond Number: Bid Bond

Principal: C.B. Developers, Inc.

Obligee: City of Hattiesburg

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

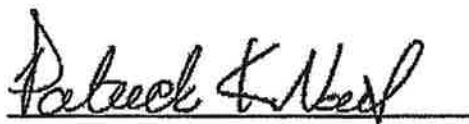
This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this 20th day of July, 2017.

Attested and Certified

Arch Insurance Company



Patrick K. Nails, Secretary

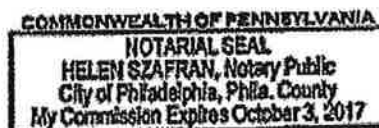
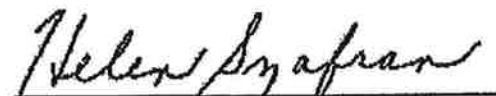



David M. Finkelstein, Executive Vice President

STATE OF PENNSYLVANIA SS

COUNTY OF PHILADELPHIA SS

I, Helen Szafran, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.

Helen Szafran, Notary Public  
My commission expires 10/03/2017

#### CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated July 20, 2017 on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this 20th day of July, 2017.



Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance – Surety Division  
3 Parkway, Suite 1500  
Philadelphia, PA 19102





C. B. DEVELOPERS, INC.  
938 OLD RIFLE RANGE RD.  
PETAL, MS 39465

Ph 601-582-1600

Ph 601-583-0005

Fax 601-583-0009

Cbcliff@comcast.net

STATE OF MISSISSIPPI  
FORREST COUNTY

RESOLUTION

BE IT RESOLVED THAT Mack Lister IS HEREBY AUTHORIZED, EMPOWERED AND DIRECTED TO EXECUTE FOR AND ON BEHALF OF C.B. Developers, Inc., a corporation, any and all bid and job specific documents including but not limited to price sheets, change orders, certification, addendum, contracts, agreements, and official letters.

C. B. DEVELOPERS, INC.



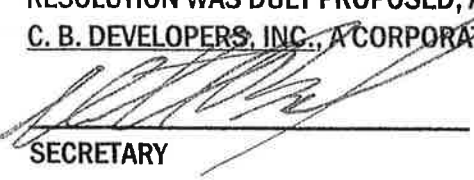
BY: SHERRY BRELAND  
TITLE: PRESIDENT

C. B. DEVELOPERS, INC.



BY: CLIFF BRELAND  
TITLE: VICE-PRESIDENT

I, Cliff Breland, as secretary of C. B. DEVELOPERS, INC. DO HEREBY CERTIFY THAT THE ABOVE RESOLUTION WAS DULY PROPOSED, ADOPTED, AND **RESOLVED**, DURING A SPECIAL MEETING OF C. B. DEVELOPERS, INC., A CORPORATION, ON THIS THE 18TH DAY OF June, 2012.



SECRETARY

## CONTRACT AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, 20____ by and between C.B. Developers, Inc. hereinafter called the CONTRACTOR, CITY OF HATTIESBURG hereinafter called the OWNER, Witnesseth that the Contractor and the OWNER, for the consideration hereafter named and agrees as follows.

### ARTICLE 1: SCOPE OF WORK

The Contractor agrees to furnish all tools, labor, equipment, materials, and supplies required to be furnished, and perform all work required under and in accordance with the plans entitled:

#### **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL MISCELLANEOUS CONNECTIONS**

which are on file at the office of the OWNER, and the Specifications, Proposals, General and Special Conditions, attached hereto and made a part hereof as fully as though copied herein, under the direct supervision and to the entire satisfaction of the OWNER and in accordance with the Laws of the State of Mississippi.

### ARTICLE 2: THE CONTRACT SUM

It is further agreed and understood by and between the parties hereunto that the OWNER agrees to pay and the Contractor agrees to accept full and final compensation for all work done under this agreement, the lump sum amount adjusted for variation of quantities at the unit prices named in the Proposal, which is hereto attached, such payment to be made in lawful money of the United States, at the time and in the manner hereinafter set forth.

### ARTICLE 3: TIME OF COMPLETION

The Contractor agrees, for the consideration above expressed, to begin and complete the work within the time specified in the Proposal. If the Contractor fails to complete the work in the time specified, he shall pay the OWNER as **LIQUIDATED DAMAGES**, ascertained and agreed, and not in the nature of a penalty, the sum of **\$ 350.00** for each day delayed, which shall be deducted from the final amount to be paid under the contract; provided that the extension of time with the waiver of liquidation damages may be granted as provided for in the Specifications.

#### ARTICLE 4: PROGRESS PAYMENTS

The owner agrees to make progress payments during the construction as provided herein as follows:

The ENGINEER will on or before the tenth (10th) day of each month make an estimate of the value of the work done, based on contract prices.

The OWNER agrees to pay the CONTRACTOR 100% of the value of the work done each month, less five percent (5%) RETAINAGE until final acceptance of the work has been made).

#### ARTICLE 5: ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final acceptance and inspection, the Engineer shall promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he shall promptly issue a final certificate, over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof. Then, the entire balance shall be due the Contractor within sixty (60) days the date of said final acceptance.

Before issuance of final certificate, the Contractor shall submit evidence satisfactory to the ENGINEER that all payrolls, materials, bills, and other indebtedness connected with the work have been paid.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER, other than those arising from unsettled liens, from faulty work or materials appearing within one (1) year after payment, or claims previously made and still unsettled.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Engineer, so certifies, the OWNER shall, upon certificate of the Engineer and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

#### ARTICLE 6: THE PERFORMANCE BOND

The Contractor agrees to furnish a bond, with an approved surety thereon guaranteeing the performance of this contract, in no less than one hundred percent (100%) of the amount of the Contract. Said Bond shall be conditioned on full and complete performance of the Contract, and for the payment of all labor and materials for a period

of one (1) year after completion. The Surety on said Bond shall be a surety company of financial resources satisfactory to the OWNER and authorized to do business in the State of Mississippi.

#### ARTICLE 7: INSURANCE

The Contractor agrees to also carry Public Liability Insurance, Property Damage Insurance, and Workman's Compensation Insurance in amounts as required by the Specifications.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

OWNERS:

SEAL

City of Hattiesburg

BY _____

Title _____ ATTEST _____

CONTRACTOR:

SEAL

L. B. Developers, Inc.

BY [Signature]

Title Project Manager ATTEST [Signature]

### **PAYMENT AND PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS: THAT WE, the Undersigned (hereinafter called the Principal), a corporation, partnership or individual duly unauthorized by law to do business as a construction contractor in the State of Mississippi, and Arch Insurance Company of (herein called the Surety), a corporation duly authorized to do a surety business under the laws of the State of Mississippi, are held and firmly bound unto City of Hattiesburg, (hereinafter called the Obligee), a Municipality existing under the laws of the State of Mississippi, in the penal sum of Dollars (\$2,054,414.75) lawful money of the United States, for the payment of which well and truly to be made, the said Principal and the said Surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents, as follows:

The Condition of this obligation is such that; whereas Principal by an instrument in writing attached here-to and bearing date of _____ has agreed with said Obligee to do all work necessary and to furnish labor, materials, tools, supplies and services to construct **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL** as shown on Plans and specified thereby in the Specifications, Proposal and other Contract Documents hereto attached.

NOW THEREFORE, if said Principal shall well and truly in good, sufficient and workmanlike manner, and to the satisfaction of Obligee perform and complete the work required, and shall defend, indemnify and save harmless said Obligee against all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising out of injury or damage to persons or property by reason or arising from any act, omission or neglect of said Principal, his agent, servants or employees with relation to said work; and shall pay all cost, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to Obligee completed and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to Obligee by reason of any default or neglect of the said Principal in the relation of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said surety for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract, or the work to be performed hereunder, or the Specifications accompanying the same, shall in any way affect its obligation on this bond and does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

PROVIDED FURTHER, that if Principal, his or its subcontractor or subcontractors fail to duly pay for any labor, materials, team hire, sustenance provisions or any other supplies or materials used or consumed by such Principal or his, their or its subcontractors in performance of the work contracted to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest as provided by law.

IN WITNESS THEREOF: Said Principal and surety have hereunto set their hands and seals at _____ this _____ day of _____, 20__.

(SEAL)

C.B. Developers, Inc.  
PRINCIPAL

WITNESSES:

1755 Buhl  
JIB

1716 Evelyn Gandy Parkway, Suite 40, Hattiesburg, MS 39401  
ADDRESS

[Signature]  
Name of person executing for Principal  
Project Manager  
TITLE

Arch Insurance Company  
SURETY

Harborside 3, 210 Hudson Street, Suite 300

Jersey City, NJ 07311-1107

ADDRESS

WITNESSES:

[Signature]  
[Signature]  
Peggy Jackson  
Wes Price

Witness  
TITLE

[Signature]  
Name of person executing for Surety  
Brody Eric Buckley/Attorney-in-Fact  
Resident MS Agent/Bottrell Insurance  
P.O. Box 1490  
Jackson, MS 39215-1490

*This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.*

## POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

**Brody Eric Buckley**

its true and lawful Attorney(s)-in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations.

Surety Bond Number: SU 1145477

Principal: C.B. Developers, Inc.

Obligee: City of Hattiesburg

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this _____ day of _____, 20____.

Attested and Certified

Arch Insurance Company

*Patrick K. Nails*

Patrick K. Nails, Secretary



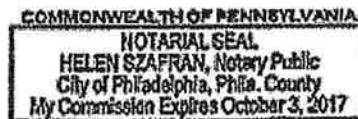
*David M. Finkelstein*

David M. Finkelstein, Executive Vice President

STATE OF PENNSYLVANIA SS

COUNTY OF PHILADELPHIA SS

I, Helen Szafran, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.



*Helen Szafran*

Helen Szafran, Notary Public  
My commission expires 10/03/2017

#### CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated _____ on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this _____ day of _____, 20____.

*Patrick K. Nails*

Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance – Surety Division  
3 Parkway, Suite 1500  
Philadelphia, PA 19102







CBDEVEL-01

ACOOK

## CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
08/14/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Fisher Brown Bottrell Insurance, Inc. P. O. Box 1490 Jackson, MS 39215	<b>CONTACT NAME:</b> Angie Cook, CIC, PIAM		
	<b>PHONE (A/C, No, Ext):</b> (601) 960-8244	<b>FAX (A/C, No):</b> (601) 208-3044	
	<b>E-MAIL ADDRESS:</b> acook@fbbins.com		
<b>INSURED</b>  C B Developers, Inc. 1716 Evelyn Gandy Parkway, #40 Hattiesburg, MS 39401	<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
	<b>INSURER A : Brierfield Insurance Company</b>		<b>10993</b>
	<b>INSURER B : American Interstate Insurance</b>		<b>31895</b>
	<b>INSURER C : Travelers Property Casualty Company of America</b>		<b>25674</b>
	<b>INSURER D :</b>		
	<b>INSURER E :</b>		
<b>INSURER F :</b>			

<b>COVERAGES</b>	<b>CERTIFICATE NUMBER:</b>	<b>REVISION NUMBER:</b>
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.		

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> <b>PD Ded: \$2,000</b>  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC <input type="checkbox"/> OTHER:			GL0013568	05/17/2017	05/17/2018	EACH OCCURRENCE \$ <b>1,000,000</b> DAMAGE TO RENTED PREMISES (Ea occurrence) \$ <b>100,000</b> MED EXP (Any one person) \$ <b>5,000</b> PERSONAL & ADV INJURY \$ <b>1,000,000</b> GENERAL AGGREGATE \$ <b>2,000,000</b> PRODUCTS - COMP/OP AGG \$ <b>2,000,000</b>
A	<input checked="" type="checkbox"/> <b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY			CA10001384101	05/17/2017	05/17/2018	COMBINED SINGLE LIMIT (Ea accident) \$ <b>1,000,000</b> BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ <b>10,000</b>			UMB0014332	05/17/2017	05/17/2018	EACH OCCURRENCE \$ <b>5,000,000</b> AGGREGATE \$ <b>5,000,000</b> Prod/Co Ops Agg \$ <b>5,000,000</b>
B	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input type="checkbox"/> N/A		AVWCMS2562322017	01/01/2017	01/01/2018	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ <b>1,000,000</b> E.L. DISEASE - EA EMPLOYEE \$ <b>1,000,000</b> E.L. DISEASE - POLICY LIMIT \$ <b>1,000,000</b>
A	<b>Leased/Rented Equip</b>			CM0006842	05/17/2017	05/17/2018	Ded See Below <b>260,000</b>
C	<b>Installation Floater</b>			6603222R85A	09/10/2016	09/10/2017	Ded: \$5,000 <b>4,000,000</b>

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
The above referenced general liability, automobile liability & Umbrella liability policies contain blanket additional insured wording where required by written contract. General Liability includes ongoing & completed operations & is on a primary/non-contributory basis where required by written contract. General Liability, Automobile Liability & Workers Compensation policies contain blanket waiver of subrogation wording when required by written contract. Additional Insured Status applies as per forms attached to the policy & available for review upon request: GL (CGL084 10/13 & CGL088 10/13) AUTO (CAU058 01/15) UMB (CU0001 12/07) All coverage is subject to policy terms, conditions and exclusions.

REFERENCE ONLY:  
SEE ATTACHED ACORD 101

<b>CERTIFICATE HOLDER</b>  City of Hattiesburg P.O. Box 1898 Hattiesburg, MS 39403-1898	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE 
-----------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



AGENCY CUSTOMER ID: CBDEVEL-01

ACOOK

LOC #: 1

**ADDITIONAL REMARKS SCHEDULE**

Page 1 of 1

AGENCY <b>Fisher Brown Bottrell Insurance, Inc.</b>		NAMED INSURED <b>C B Developers, Inc. 1716 Evelyn Gandy Parkway, #40 Hattiesburg, MS 39401</b>	
POLICY NUMBER <b>SEE PAGE 1</b>			
CARRIER <b>SEE PAGE 1</b>	NAIC CODE <b>SEE P 1</b>	EFFECTIVE DATE: <b>SEE PAGE 1</b>	

**ADDITIONAL REMARKS**

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,  
FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

**Description of Operations/Locations/Vehicles:**

Project: Comprehensive Water Improvements - Phase II, Palmers Crossing and Irene Chapel

Project: Comprehensive Sewer Improvements - Phase V

Project: Comprehensive Water Improvements Phase IV Miscellaneous Connections

Project: Water Line Extension along Old Highway 98 East and W. L. Runnels Industrial Drive

Project: Comprehensive Water Improvements Phase I,

Project: 592 Program Sewer Rehabilitation, Contract No. 3, City of Hattiesburg, MS Contract amount \$1,996,351.79

Project: Water System Extension on Veteran's Memorial Blvd. and South 28th Ave \$1,361,828.84

**NOTICE OF AWARD**

TO: C.B. Developers, Inc.  
1716 Evelyn Gandy Pkwy  
Hattiesburg, MS 39401

Project: **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS**  
**CROSSING AND IRENE CHAPEL**

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated March 31, 2017, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$2,054,414.75.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20__.

CITY OF HATTIESBURG  
OWNER

BY: _____

TITLE: Mayor

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE OF AWARD is hereby acknowledged by  
This the _____ day of _____, 20__.

Name: [Signature]

Title: Project Manager

**NOTICE TO PROCEED**

TO: C.B. Developers, Inc.  
17116 Evelyn Gandy Pkwy  
Hattiesburg, MS 39401

DATE: _____

Project: **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS**  
**CROSSING AND IRENE CHAPEL**

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 20__ on or before _____, 20__, and you are to complete the WORK within 180 consecutive CALENDER DAYS thereafter. The date of completion of all WORK is therefore _____, 20__.

_____  
CITY OF HATTIESBURG  
OWNER

BY: _____

TITLE: Mayor

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____ This the _____ day of _____, 20__.

Name: [Signature]

Title: Project Manager

## **GENERAL CONDITIONS**

### **ARTICLE 1 - DEFINITIONS**

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meaning indicated which shall be applicable to both the singular and plural thereof.

**ACCEPTANCE:** By the OWNER of the Work as being fully complete in accordance with the Contract Documents.

**AGREEMENT:** The written agreement between the OWNER and the CONTRACTOR covering the Work to be performed: the Contract Documents are attached to and made a part of the Agreement. Also designated as the Contract.

**ADDENDA:** Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by addition, deletions, clarifications or corrections.

**APPLICATION FOR PAYMENT:** The form furnished by the ENGINEER which is to be used by the CONTRACTOR in requesting progress payments and an affidavit of the CONTRACTOR that progress payments theretofore received from the OWNER on account of the WORK have been applied by the CONTRACTOR to discharge in full all of the CONTRACTOR'S obligations stated in prior Applications for Payment.

**APPROVAL:** Accept as satisfactory.

**BID:** The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

**BIDDER:** Any person, firm or corporation submitting a Bid for the Work.

**BONDS:** Bid, performance and payment bonds and other instruments of security furnished by the CONTRACTOR and his surety in accordance with the Contract Documents and in accordance with the law of the place of the project.

**CHANGE ORDER:** A written order to the CONTRACTOR signed by the OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

**CONTRACT DOCUMENTS:** The Agreement, Addenda, Instruction's to Bidders, CONTRACTOR'S BID, the Bonds, the Notice of Award, these General Conditions, the Supplementary conditions, Special Conditions, Technical Conditions, the Specifications, Drawings and Modifications, and Notice to Proceed.

**CONTRACT PRICE:** The total moneys payable to the CONTRACTOR under the Contract Documents.

**CONTRACT TIME:** The number of calendar days stated in the Agreement for the completion of the Work.

**CONTRACTING OFFICER:** The owner (Grantee) - The individual who is authorized to sign the contract documents on behalf of the owner's governing body.

**CONTRACTOR:** The person, firm or corporation with whom the OWNER has executed the Agreement.

**DAY:** A calendar day of twenty-four hours measured from midnight to the next midnight.

**DRAWINGS:** The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the ENGINEER and are referred to in the Contract Documents.

**ENGINEER:** The person, firm or corporation named as such in the Contract Documents.

**FIELD ORDER:** A written order issued by the ENGINEER which clarifies or interprets the Contract Documents in accordance with Paragraph 9.3 or orders minor changes in the Work in accordance with paragraph 10.2.

**MODIFICATION:** (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order (c) a written clarification or interpretation issued by the ENGINEER in accordance with paragraph 9.3 or (d) a written order for a minor change or alteration in the Work issued by the ENGINEER pursuant to paragraph 10.2. A modification may only be issued after execution of the Agreement.

**NOTICE OF AWARD:** The written notice by OWNER to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by him within the time specified, OWNER will execute and deliver the Agreement to him.

**NOTICE TO PROCEED:** A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligations under the Contract Documents.

**OWNER:** A public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.

**PROJECT:** The entire construction to be performed as provided in the Contract Documents.

**CONSTRUCTION OBSERVER**

**RESIDENT INSPECTOR**

**CONSTRUCTION INSPECTOR**

**PROJECT REPRESENTATIVE:** An authorized representative of the ENGINEER assigned to observe the Work performed and materials furnished by the CONTRACTOR or such other person as may be appointed by the OWNER as his representative. The CONTRACTOR shall be notified in writing of the identity of this representative.

**SHOP DRAWINGS:** All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work and as required by the Contract Documents.

**SAMPLES:** Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

**SPECIFICATIONS:** Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

**SUBCONTRACTOR:** An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

**SUBSTANTIAL COMPLETION:** The stage in construction when a project can be utilized for the purposes for which it was intended. At substantial completion, minor items and items that are seasonally restricted need not be completed, but the items that affect operational integrity and function of the facility must be capable of continuous use.

**SUPPLEMENTARY GENERAL CONDITIONS:** Federal Conditions in effect at time of submission of Bid.

**SUPPLIER:** Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

**SPECIAL CONDITIONS:** When included as a part of the Contract Documents, Special Conditions refer only to the Work under this Contract.

**SURETY:** The corporate body which is bound with the CONTRACTOR and which engages to be responsible for the CONTRACTOR and his acceptable performance of the Work.

**WORK:** Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by CONTRACTOR under the Contract Documents, including all labor, materials, equipment and other incidentals, and the furnishing thereof.

**WRITTEN NOTICE:** The term "Notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with Contract requirements. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or to an authorized representative of such individual, firm or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the notice. Unless otherwise stated in writing, any notice to or demand upon the OWNER under this Contract shall be delivered to the OWNER through the ENGINEER.

## **ARTICLE 2 - PRELIMINARY MATTERS:**

### **AWARD:**

2.1 The award of the Contract, if it is awarded, will be to the lowest responsible, responsive Bidder. No Notice of Award will be given until the OWNER has concluded such investigations as he deems necessary to establish the responsibility, qualifications, and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the BID of any Bidder who does not pass such investigation to the OWNER'S satisfaction. In analyzing Bids, the OWNER may take into consideration alternates and unit prices, if requested by the Bid Form. If the Contract is awarded, the OWNER will issue the NOTICE of AWARD and give the successful Bidder a contract for execution within sixty (60) days after the opening of Bids.

### **EXECUTION OF AGREEMENT:**

2.2 At least three counterparts of the Agreement and such other Contract Documents will be executed and delivered by CONTRACTOR to the OWNER within 10 working days or 15 calendar days of receipt from the OWNER.

### **FORFEITURE OF BID SECURITY:**

2.3 Failure of the successful Bidder to execute and deliver the Agreement and deliver the required Bonds as stipulated in paragraph 2.2 shall be just cause for the OWNER to annul the Notice of Award and declare the Bid and any security therefore forfeited.



## **CONTRACTOR'S PRE-START REPRESENTATIONS:**

2.4 CONTRACTOR represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the Contract Documents, Work, Locality, and local conditions and will obey all federal, state, and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that he has correlated his study and observations with the requirements of the Contract Documents. CONTRACTOR also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the Specifications and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

## **COMMENCEMENT OF CONTRACT TIME:**

2.5 The Contract Time will commence to run no less than the 15 days after receipt by the CONTRACTOR of the Notice to Proceed.

## **STARTING THE PROJECT:**

2.6 CONTRACTOR shall start to perform his obligations under the Contract Documents on the date when the Contract Time commences to run. No Work shall be done at the site prior to the date on which the Contract Time commences to run, except with the written consent of the OWNER.

## **BEFORE STARTING CONSTRUCTION:**

2.7 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. He shall at once report in writing to ENGINEER any conflict, error or discrepancy which he may discover; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Drawings or Specifications.

## **SCHEDULE OF COMPLETION:**

2.8 Within ten (10) days after delivery of the Notice to Proceed by OWNER to CONTRACTOR, CONTRACTOR shall submit to ENGINEER an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the Work, and a preliminary schedule of Shop Drawing submissions. See paragraphs 6.22 through 6.26. The ENGINEER shall review and return this schedule or require revisions thereto within 14 days of its submittal. If there is more than one CONTRACTOR involved in a project, the responsibility for coordinating the Work of all CONTRACTORS

shall be as provided in the Special Conditions.

2.9 Within twenty (20) days after delivery of the executed agreement by OWNER to CONTRACTOR, but before starting the Work at the site, a preconstruction conference will be held to review the above schedules, to establish procedures for handling shop drawings and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the project. Present at the conference will be the OWNER or his representative, ENGINEER, Resident Project Representatives, CONTRACTOR and his Superintendent.

#### **QUALIFICATION OF SUBCONTRACTORS MATERIALMEN AND SUPPLIERS:**

2.10 Within ten (10) working days after bid opening, the CONTRACTOR will (if required) submit to the OWNER and the ENGINEER for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish principal items of material or equipment) proposed for those portions of the Work as to which the identity of the Subcontractors and other person and organizations must be submitted as specified in the Contract Documents. Within thirty (30) working days after receiving the list, the ENGINEER will notify the CONTRACTOR in writing if either the OWNER or the ENGINEER, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the OWNER or the ENGINEER to make objection to any Subcontractor, person or organization on the list within thirty days of receipt shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the OWNER or the ENGINEER to reject defective Work, material or equipment, or Work, material or equipment not in conformance with the requirements of the Contract Documents.

#### **ARTICLE 3 - CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS:**

3.1 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR. They may be altered only by a Modification.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall call it to the ENGINEER'S attention in writing at once and before proceeding with the Work affected thereby; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Specifications or Drawings. The various Contract Documents shall be given precedence, in case of conflict, error or discrepancy, as follows: Agreement Modifications, Addenda, Special Conditions, and Instruction's to Bidders, General Conditions, Technical Specifications and

## Drawings.

3.3 The words "furnish, "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service.

3.4 Miscellaneous items and accessories which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or usable structure or plant providing the indicated function, shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards including material, style, finish, strength, class, weight and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the ENGINEER before installation. The above requirement is not intended to include major components not covered by or inferable from the Drawings and Specifications.

3.5 The Work of all trades under this Contract shall be coordinated by the CONTRACTOR in such a manner as to obtain the best workmanship possible for the entire Project, and all components of Work shall be installed or erected in accordance with the best practices of the particular trade.

3.6 Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes or standard specifications or other data published by regulating agencies or accepted organizations, including but not limited to National Electrical Code, applicable State Building Code, Federal Specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of Bid.

3.7 Brand names where used in the Technical Specifications, are intended to denote the standard of quality required for the particular material or product. The use of a brand name item is to set a standard of quality and is not intended to restrict the Contractor from offering an equal item from other source(s) of supply. The term "equal" or "equivalent" when used in connection with brand names, shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color and other applicable characteristics to the material or product specified by trade name, and that is for the same use and capable of performing the same function, in the opinion of the ENGINEER, as the material or product so specified. Proposed equivalent items must be approved by ENGINEER before they are purchased or incorporated in the Work.

**ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE CONDITIONS;  
REFERENCE POINTS:**

**Availability of Lands**

4.1 The OWNER will furnish, as indicated in Contract Documents the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise specified in the Contract Documents. Other access to such lands or rights-of-way for the CONTRACTOR'S convenience shall be the responsibility of the CONTRACTOR. The CONTRACTOR will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 The OWNER will, upon request, furnish to the BIDDERS copies of all available boundary surveys.

**Subsurface Conditions:**

4.3 The CONTRACTOR acknowledges that he has investigated prior to bidding and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the grounds, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The CONTRACTOR further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done on behalf of the OWNER on the site or any contiguous site, as well as from information presented by the Drawings and Specifications made a part of this Contract, or any other information made available to him prior to receipt of Bids. Any failure by the CONTRACTOR to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The OWNER assumes no responsibility for any conclusions or interpretations made by the CONTRACTOR on the basis of the information made available by the OWNER.

**Differing Site Conditions**

4.4 (a) The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The

OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above.

(c) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

## **ARTICLE 5 - BONDS AND INSURANCE:**

### **Performance and Payment Bonds:**

5.1 The contractor's attention is directed to the Information for Bidders.

### **Contractor's Liability Insurance:**

5.2 The CONTRACTOR shall provide the OWNER with insurance certificates certifying that all required insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

5.3 The CONTRACTOR agrees that if any part of the Work under the contract is sublet, he will require the Subcontractor(s) to carry insurance as required, and that he will require the Subcontractor(s) to furnish to him insurance certificates similar to those required by the OWNER in 5.1 above.

5.4 The CONTRACTOR agrees to add ENGINEER to insurance policy as additional insured.

### **Owner's Liability Insurance**

5.4 The OWNER will be responsible for purchasing and maintaining his own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the Contract Documents.

### **Fire and Extended Coverage Insurance (Builders' Risk):**

5.5 The CONTRACTOR shall maintain, as applicable, in an Insurance Company or Insurance Companies acceptable to the OWNER, Fire, Extended Coverage and Vandalism & Malicious Mischief Insurance on buildings and structures, while in the course of construction, including foundations, additions, attachments and all permanent fixtures belonging to and

constituting a part of said buildings or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the Contract. The amount of insurance should at all times be at least equal to the actual cash value of the insured property. The policy shall be in the name of the OWNER and the CONTRACTOR, as their interests may appear, and shall also cover the interests of all Subcontractors performing work.

5.6 The CONTRACTOR shall provide the OWNER with satisfactory evidence certifying that the foregoing insurance is in force; and such evidence shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

#### Cancellation and Re-Insurance:

5.7 If any insurance should be canceled or changed by the insurance company or should any insurance expire during the period of this Contract, the CONTRACTOR shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this Contract.

### **ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES:**

#### Supervision and Superintendence:

6.1 The CONTRACTOR will supervise and direct the Work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work. (Copies of written communications given to the Superintendent shall be mailed to the Contractor's home or office.)

#### Labor, Materials and Equipment:

6.2 The CONTRACTOR will provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order at the site.

6.3 The CONTRACTOR will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

6.4 All materials and equipment will be new, except as otherwise provided in the Contract



Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

6.5 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

**Materials, Equipment, Products and Substitutions:**

6.6 Materials, equipment and products incorporated in the Work must be approved for use before being purchased by the CONTRACTOR. The CONTRACTOR shall submit to the ENGINEER a list of proposed materials, equipment or products, together with such samples as may be necessary for him to determine their acceptability and obtain his approval, within ninety (90) calendar days after award of Contract. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the ENGINEER.

6.6.1 Whenever a material, article or piece of equipment is identified on the drawings or Specifications by reference to brand names or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand names or catalog number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Incidental charges or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the Contract Price, or Contract Time.

6.6.2 No substitute shall be ordered or installed without the written approval of the ENGINEER who shall be the judge of equality.

6.6.3 Delay caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.

6.6.4 Should any work or materials, equipment or products not conform to requirements of the Drawings and Specifications or become damaged during the process of the Work, such Work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the Project. All such work shall be done at the expense of the CONTRACTOR. (See paragraph 7.10)

6.6.5 No materials or supplies for the Work shall be purchased by the CONTRACTOR or by

any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the Seller. The CONTRACTOR warrants that he has good title to all materials and supplies used by him in the Work.

Concerning Subcontractors:

6.7 The CONTRACTOR will not employ any Subcontractor, other person or organization of the types referred to in paragraph 2.10 (whether initially or as a substitute) against whom the OWNER or the ENGINEER may have reasonable objection, nor will the CONTRACTOR be required to employ any Subcontractor against whom he has reasonable objection. The CONTRACTOR will not make any substitution for any Subcontractor who has been accepted by the OWNER and the ENGINEER, unless the ENGINEER determines that there is good cause for doing so.

6.8 The CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any Subcontractor or other person or organization having a direct contract with CONTRACTOR, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER or ENGINEER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done in accordance with the schedule of values.

6.9 The divisions and sections of the Specifications and the identifications of any drawings shall not control the CONTRACTOR in dividing the work among Subcontractors or delineating the Work to be performed by any specific trade.

6.10 The CONTRACTOR agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the OWNER.

6.11 All Work performed for the CONTRACTOR by a Subcontractor shall be pursuant to an appropriate agreement between the CONTRACTOR and the Subcontractor.

6.12 The CONTRACTOR shall be responsible for the coordination of the trades, Subcontractors and material men engaged upon his Work.

6.12.1 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the CONTRACTOR by the terms of these General Conditions and other Contract Documents insofar as applicable to the Work of Subcontractors, and to give the CONTRACTOR the same power as regards



terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provisions of the Contract Documents.

6.12.2 The OWNER or ENGINEER will not undertake to settle any differences between the CONTRACTOR and his Subcontractors or between Subcontractors.

6.12.3 If in the opinion of the ENGINEER, any Subcontractor on the project proves to be incompetent or otherwise unsatisfactory, he shall be replaced if and when directed in writing.

#### Patent Fees and Royalties:

6.13 The CONTRACTOR will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

6.14 The CONTRACTOR shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles or systems prior to bidding. However, he shall not be responsible for such determination on systems which do not involve purchase by him of materials, appliances, and articles.

#### Permits:

6.15 The CONTRACTOR will secure and pay for all construction permits and licenses and will pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of his Bid. When such charges are normally made by the OWNER, there will be no charges to the CONTRACTOR. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR will also pay all public utility charges.

#### Laws and Regulations:

6.16 The CONTRACTOR will give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, he will give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he will bear all costs arising wherefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and

regulations.

Taxes:

6.17 Cost of all sales and other taxes for which the CONTRACTOR is liable under the Contract shall be included in the Contract Price stated by the CONTRACTOR.

Record Drawings:

6.18 The CONTRACTOR will keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Engineer and shall be delivered to him for the OWNER upon completion of the Project. It shall be used for this purpose only.

Safety and Protection:

6.19 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

6.19.1 All employees on the work and other persons who may be affected thereby.

6.19.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

6.19.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

6.20 The CONTRACTOR will designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the CONTRACTOR'S superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER.

Emergencies:

6.21 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He will give the ENGINEER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall be issued covering the changes and deviations involved. If the CONTRACTOR

believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in Articles 11 & 12.

Shop Drawing and Samples:

6.22 After checking and verifying all field measurements, the CONTRACTOR will submit to the ENGINEER for review, in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9) copies (or at the ENGINEER'S option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the CONTRACTOR. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the ENGINEER to review the information as required.

6.23 The CONTRACTOR will also submit to the ENGINEER for review, with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the CONTRACTOR, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

6.24 At the time of each submission, the CONTRACTOR will in writing call the ENGINEER'S attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.

6.25 The ENGINEER will review with reasonable promptness Shop Drawings and samples, but his review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The CONTRACTOR will make any corrections required by the ENGINEER and will return the required number of corrected copies of Shop Drawings and resubmit new samples until the review is satisfactory to the ENGINEER. The CONTRACTOR shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the ENGINEER on previous submissions. The CONTRACTOR'S stamp of approval on any Shop Drawings or sample shall constitute a representative to the OWNER and the ENGINEER that the CONTRACTOR has either determined and verified all quantities, dimensions, field construction criteria, materials, catalogue numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawings or sample with the requirements of the Work and the Contract Documents.

6.26 No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been reviewed by the ENGINEER. A copy of each Shop Drawing and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6.27 The ENGINEER'S review of Shop Drawings or samples shall not relieve the

CONTRACTOR from his responsibility for any deviations from the requirements of the Contract Documents unless the CONTRACTOR has in writing called the ENGINEER'S attention to such deviation at the time of submission and the ENGINEER has given written approval to the specific deviation, nor shall any review by the ENGINEER relieve the CONTRACTOR from responsibility for errors or omission in the Shop Drawings.

#### Cleaning Up:

6.28 The CONTRACTOR shall clean up behind the Work as much as is reasonably possible as the Work progresses. Upon completion of the Work, and before acceptance of and final payment for the Project by the owner, the CONTRACTOR shall remove all his surplus and discarded materials excavated material and rubbish from the roadways, sidewalks, parking areas, lawns and all adjacent property; shall clean his portion of Work involved in any building under this Contract, so that no further cleaning by the OWNER is necessary prior to his occupancy; shall restore all property, both public and private, which has been disturbed or damaged during the prosecution of the Work; and shall leave the whole in a neat and presentable condition.

6.29 Clean-up operations shall consistently be carried on by the CONTRACTOR at all times to keep the premises free from accumulation of waste materials and rubbish. Upon completion of the Work he shall remove all rubbish, tools, scaffolding, surplus materials, etc., and shall leave his work "broom clean", or its equivalent, unless more exactly specified elsewhere in the Contract. The General CONTRACTOR shall do the following special cleaning for all trades upon completion of the Work.

6.30 General. In case of dispute, the OWNER may remove the rubbish and charge the cost to the several contractors as the ENGINEER shall determine to be just.

#### Public Convenience and Safety:

6.31 The CONTRACTOR shall, at all times, conduct the Work in such a manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of the Work shall be provided for in a satisfactory manner, consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the Work, in a conspicuous position at such locations as traffic demands. At any time that streets are required to be closed, the CONTRACTOR shall notify law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

#### Sanitary Provisions:

6.32 The General CONTRACTOR shall furnish necessary toilet conveniences, secluded from

public observation, for use of all personnel on the Work, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the Public Authorities having jurisdiction. He shall commit no public nuisance. Temporary sanitary facilities shall be removed upon completion of the Work and the premises shall be left clean.

Indemnification:

6.33 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses, and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss, or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than Work itself) including the loss of use resulting wherefrom and (b) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

6.34 In any and all claims against the OWNER or the ENGINEER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.35 The obligations of the CONTRACTOR under paragraph 6.33 shall not extend to the liability of the Engineer's negligent acts, errors or omissions or those of his employees or agents.

Responsibility for Connecting to Existing Work:

6.36 It shall be the express responsibility of the CONTRACTOR to connect his Work to each part of the existing work or work previously installed as required by the Drawings and Specifications to provide a complete installation.

Work in Street, Highway and Other Rights-of-Way:

6.37 Excavation, grading, fill, storm drainage, paving and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines (either aerial, surface or subsurface), etc., shall be done in accordance with requirements of the special conditions. The OWNER will be responsible for obtaining all permits necessary for the work. Upon completion of the Work, CONTRACTOR shall present to ENGINEER certificates, in triplicate, from the proper authorities stating that the Work has been done in

accordance with their requirements.

6.37.1 The OWNER will cooperate with the CONTRACTOR in obtaining action from any utilities or public authorities involved in the above requirements.

6.37.2 The ENGINEER shall be responsible for obtaining elevations of curbs and gutters, pavement, storm drainage structures, and other such items which must be established by governmental departments as soon as grading operations are begun on the site and, in any case, sufficiently early in the construction period to prevent any adverse effect on the Project.

Cooperation with Governmental Departments, Public Utilities, Etc:

6.38 The OWNER shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structure connected therewith, that are encountered in the work in order that such items may be properly shored, supported and protected, or the CONTRACTOR may relocate them if he so desires. The CONTRACTOR shall give all proper notices, shall comply with requirements of such parties in the performance of his Work, shall permit entrance of such parties on the Project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this work.

6.38.1 The CONTRACTOR'S attention is called to the fact that there may be delays on the Project due to work to be done by governmental departments, public utilities, and others in repairing or moving poles, conduits, etc. The CONTRACTOR shall cooperate with the above parties, in every way possible, so that the construction can be completed in the least possible time.

6.38.2 The CONTRACTOR shall have made himself familiar with all codes, laws, ordinances and regulations which in any manner affect those engaged or employed in the Work, or materials and equipment used in or upon the Work, or in any way affect the conduct of the Work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

Use of Premises:

6.39 CONTRACTOR shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, permits, and directions of ENGINEER and OWNER, and shall not unnecessarily encumber any part of site.

6.39.1 CONTRACTOR shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the Work to



stresses or pressures that will endanger it.

6.39.2 CONTRACTOR shall enforce OWNER'S instructions in connection with signs, advertisements, fires and smoking.

6.39.3 CONTRACTOR shall arrange and cooperate with OWNER in routing and parking of automobiles of his employees, subcontractors and other personnel and in routing material delivery trucks and other vehicles to the Project Site.

Protection of Existing Property Improvements:

6.40 Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings or structures (including portions thereof), trees, and shrubbery not indicated on the Drawings or noted in the Specifications as being removed or altered shall be protected from damage during construction of the Project. Any such improvements damaged during construction of the Project shall be restored to a condition equal to that existing at time of award of Contract.

Temporary Heat:

6.41 The General CONTRACTOR shall provide heat, fuel and services as necessary to protect all work and materials, within all habitable areas of permanent building construction, for all contracts against injury from dampness and cold until final acceptance of all work and materials for the Project, unless building is fully occupied by the OWNER prior to such acceptance, in which case the OWNER shall assume all expenses of heating from date of full occupancy. In areas outside those covered above, each prime contractor shall be responsible for providing such temporary heat, fuel and services as required to protect his work or shall make all necessary arrangements with the General CONTRACTOR for providing such temporary heat, fuel and services. Unless otherwise specifically permitted by Special Conditions, the permanent heating system shall not be used to provide temporary heat. CONTRACTOR'S proposed methods of heating shall be submitted for approval.

**ARTICLE 7 - WORK BY OTHERS:**

7.1 The OWNER may perform additional work related to the Project by himself, or he may let other direct contracts therefore which shall contain General Conditions similar to these. The CONTRACTOR will afford the other contractors who are parties to such direct contracts (or the OWNER, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

7.2 If any part of the CONTRACTOR'S work depends for proper execution or results upon the work of any such other CONTRACTOR (or the OWNER), the CONTRACTOR will

promptly report to the ENGINEER in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

7.3 The CONTRACTOR will do all cutting, fitting, and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The CONTRACTOR will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and of the other contractors whose work will be affected.

7.4 If the performance of additional work by other contractors or the OWNER is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work. If the CONTRACTOR believes that the performance of such additional work by the OWNER or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provide in Articles 11 and 12.

7.5 Where practicable, the General CONTRACTOR shall build around the work of other separate contractors or shall leave chases, slots and holes as required to receive and to conceal within the general construction work the work of such other separate contractors as directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the ENGINEER.

7.6 Necessary chases, slots and holes not built or left by the General CONTRACTOR shall be cut by the separate contractor requiring such alterations after approval of the General CONTRACTOR. The General CONTRACTOR shall do all patching and finishing of his Work where cut by other contractors at the expense of such other contractors.

7.7 Cooperation is required in the use of site facilities and in the detailed execution of the Work. Each CONTRACTOR shall coordinate his operations with those of the other contractors for the best interest of the Work in order to prevent delay in the execution thereof.

7.8 Each CONTRACTOR shall keep himself informed of the progress of the work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the CONTRACTOR shall notify the ENGINEER immediately. Lack of such notice to the ENGINEER will be construed as acceptance by the CONTRACTOR of the status of the work of other contractors as being satisfactory for proper coordination of his own work.

7.9 Each CONTRACTOR shall give notices of the progress of his work so as to allow other contractors adequate opportunity to properly direct and coordinate their work. The General Contractor shall give notices of the progress of his Work so that work of other contractors, when required to be concealed, may be placed before the general construction Work. All such notices shall be submitted to the ENGINEER with copies to other prime contractors on



the Project sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 The cost of extra work resulting from lack of notices, untimely notices, failure to respond to notices, defective work or lack of coordination shall be borne by the CONTRACTOR responsible for such lack of notices, etc.

## **ARTICLE 8 - OWNER'S RESPONSIBILITIES:**

8.1 The OWNER will issue all communications to the CONTRACTOR through the ENGINEER.

8.2 In case of termination of the employment of the ENGINEER, the OWNER will appoint an engineer against whom the CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration, if mutually agreeable.

8.3 The OWNER will furnish the data required of him under the Contract Documents promptly and shall make payments to the CONTRACTOR promptly after they are due as provided in Article 14.

8.4 OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1, 4.4 and the Special Conditions. Paragraphs 4.2 and 4.3 refer to OWNER'S identifying and making available to CONTRACTOR copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications.

8.5 The OWNER'S responsibilities in respect of liability and property insurance are set forth in paragraph 5.4.

8.6 In addition to his rights to request changes in the Work in accordance with Article 10, the OWNER (especially in certain instances as provided in paragraph 10.4) will be obligated to execute Change Orders.

8.7 In connection with the OWNER'S right to stop Work or suspend Work; see paragraph 15.1. Paragraph 15.3 deals with the OWNER'S right to terminate services of the CONTRACTOR under certain circumstances.

8.8 The OWNER shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the fact that the time for completing the entire Work or any portion thereof may not have expired; but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays

the Work, the CONTRACTOR shall be entitled to such extra compensation or extension of time or both, except by prior agreement, as the ENGINEER may determine. See paragraph 14.11.

## **ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION:**

### **Owner's Representative:**

9.1 The ENGINEER shall be the OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER'S representative during construction are set forth in Articles 1 through 17 of these General Conditions and shall not be extended without written consent of the OWNER and the ENGINEER.

9.1.1 The ENGINEER'S decision, in matters relating to aesthetics shall be final, if within the terms of the Contract Documents.

9.1.2 Except as may be otherwise provided in this contract all claims, counter-claims, disputes and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this agreement or the breach thereof will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the State in which the OWNER is located.

### **Visits to Site:**

9.2 The ENGINEER will make periodic visits to the site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. He will not be required to make continuous on-site observations to check the quality or quantity of the Work. His efforts will be directed toward ascertaining on behalf of the OWNER that the completed Project will conform to the requirements of the Contract Documents. On the basis of his on-site observations as an experienced and qualified design professional, he will keep the OWNER informed of the progress of the Work and will endeavor to guard the OWNER against defects and deficiencies in the Work of contractors.

### **Clarifications and Interpretations:**

9.3 The ENGINEER will issue with reasonable promptness such written clarification or interpretations of the Contract Documents (in the form of Drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the Contractor believes that a written clarification and interpretation entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

#### Measurement of Quantities:

9.4 All Work completed under the Contract will be measured by the ENGINEER according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

#### Rejecting Defective Work:

9.5 The ENGINEER will have authority to disapprove or reject Work which is "defective" (which term is hereinafter used to describe Work that is unsatisfactory, faulty or defective, or does not meet the requirements of any inspection, test or approval or has been damaged prior to final acceptance). He will also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

#### Shop Drawings, Change Orders and Payments:

9.6 In connection with the ENGINEER'S responsibility as to Shop Drawings and samples, see paragraphs 6.22 through 6.27, inclusive.

9.7 In connection with the ENGINEER'S responsibility for Change Orders; see Articles 10, 11, and 12.

9.8 In connection with the ENGINEER'S responsibilities in respect of Application for Payment, etc., see Article 14.

#### Resident Project Representative:

9.9 The OWNER or the ENGINEER will provide on-site representation sufficient to guarantee that construction is in general compliance with the construction drawings and the contract specifications.

#### Decisions on Disagreements:

9.10 The ENGINEER will be the initial interpreter of the terms and conditions of the Contract Documents and the judge of the performance hereunder. In his capacity as interpreter and judge, he will exercise his best efforts to insure faithful performance by both the OWNER and the CONTRACTOR. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work or the interpretation of or performance under the Contract Documents shall be referred initially to the ENGINEER for decision; which he shall render in writing within a reasonable time.

9.11 Either the OWNER or the CONTRACTOR, if the other agrees, may request legal action with respect to any such claim, dispute or other matter that has been referred to the

ENGINEER, except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.11, such legal action to be in accordance with Article 16. However, no request for legal action of any such claim, dispute or other matter shall be made until the earlier of (a) the date on which the ENGINEER has rendered his decision or (b) the tenth day after the parties have presented their evidence to the ENGINEER if he has not rendered his written decision before that date. No request for legal action shall be made later than thirty (30) days after the date on which the ENGINEER rendered his written decision in respect of the claim, dispute or other matter as to which legal action is sought; and the failure to request legal action within said thirty (30) days period shall result in the ENGINEER'S decision being final and binding upon the OWNER and the CONTRACTOR. If the ENGINEER renders a decision after legal proceedings have been initiated, such decision may be entered as evidence but shall not supersede the legal proceedings, except where the decision is acceptable to the parties concerned.

#### Limitations on Engineer's Responsibilities:

9.12 Neither the ENGINEER'S authority to act under this Article 9 nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any of their agents or employees or any other person performing any of the Work.

9.13 The ENGINEER will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

9.14 The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other person performing any of the Work.

#### **ARTICLE 10 - CHANGES IN THE WORK:**

10.1 Without invalidating the Agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, the CONTRACTOR will proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12. A Change Order signed by the CONTRACTOR indicates his agreement therewith.

10.2 The ENGINEER may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the CONTRACTOR believes that any minor

change or alteration authorized by the ENGINEER entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

10.3 Additional Work performed by the CONTRACTOR without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.21 and except as provided in paragraph 10.2.

10.4 The OWNER will execute appropriate Change Orders prepared by the ENGINEER covering changes in the Work to be performed as provided in paragraph 4.4, and Work performed in an emergency as provided in paragraph 6.21 and any other claim of the CONTRACTOR for a change in the Contract Time or the Contract Price which is approved by the ENGINEER.

10.5 It is the CONTRACTOR'S responsibility to notify his surety of any changes affecting the general scope of the Work or change in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. The CONTRACTOR will furnish proof of such adjustment to the OWNER.

#### **ARTICLE 11 - CHANGE OF CONTRACT PRICE:**

11.1 The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without changing the Contract Price.

11.2 (a) The OWNER may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the Work within the general scope of the contract, including but not limited to changes:

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Owner-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation or determination) from the OWNER, which causes any such change, shall be treated as a change order under this clause, provided that the CONTRACTOR gives the OWNER written notice stating the date, circumstances, and source of the order and that the CONTRACTOR regards the order as a change order.

(c) Except as herein provided, no order, statement, or conduct of the OWNER shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment hereunder.

(d) If any change under this clause causes an increase or decrease in the CONTRACTOR'S cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: PROVIDED, HOWEVER, that except for claims based on defective specifications, no claim for any change under (b) above shall be allowed for any costs incurred more than 20 days before the CONTRACTOR gives written notice as therein required. And provided further, that in the case of defective specifications for which the OWNER is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the CONTRACTOR in attempting to comply with such defective specifications.

(e) If the CONTRACTOR intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the OWNER a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the OWNER. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1 Where the Work involved is covered by unit prices contained in the Contract

Documents by application of unit prices to the quantities of the items involved. Should the Work (by quantity) be increased or decreased by 15 per cent from that stipulated in the Contract Documents, the OWNER and the CONTRACTOR may request adjustment of the unit prices by negotiation. If negotiation fails to reach agreement, then either party may request arbitration for the volume in excess of the 15 per cent differential.

11.3.2 By negotiated lump sum.

11.3.3 The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise maybe agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:



11.4.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to salaries and wages plus the costs of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays shall be included in the above to the extent authorized by OWNER.

11.4.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturer's field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to him and shall deliver such Bids to OWNER who will then determine with the advice of ENGINEER, which Bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of Work plus a Fee, the cost of the Work shall be determined in accordance with paragraphs 11.4 and 11.5.

11.4.4 Costs of special consultants (including but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work.

11.4.5 Supplemental costs including the following:

11.4.5.1 The proportion of necessary transportation, travelling and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or other in accordance with rental agreements approved by

OWNER with the advice of ENGINEER, and the cost of transportation, loading, unloading, installation, dismantling and removal thereof--all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall end when the use thereof is no longer necessary for the Work.

11.4.5.4 Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable imposed by any governmental authority.

11.4.5.5 Deposits lost for causes other than CONTRACTOR'S negligence, royalty payments and fees for permits and licenses. Costs for permits and licenses must be shown as a separate item.

11.4.5.6 Losses, damages and expenses, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the execution of, and to, the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of Work for the purpose of determining CONTRACTOR'S fee. If however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9 Cost of premiums for additional Bonds and Insurance required because of changes in the Work.

11.5 The term cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals, (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the schedule referred to in subparagraph 11.4.1 -- all of which are to be considered administrative costs covered by the CONTRACTOR'S Fee.

11.5.2 Expenses of CONTRACTOR'S principal and branch offices other than his office at the site.

11.5.3 Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S



capital employed for the Work and charges against CONTRACTOR'S for delinquent payments.

11.5.4 Cost of premiums for all bonds and for all insurance policies whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as otherwise provide in subparagraph 11.4.5.9.)

11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR'S Fee which shall be allowed to CONTRACTOR for his overhead and profit shall be determined as follows;

11.6.1 A mutually acceptable firm fixed price; or if none can be agreed upon,

11.6.2 A mutually acceptable fixed fee based on the estimate of the various portions of the Cost of the Work.

11.7 The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.8 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will submit in form prescribed by ENGINEER an itemized cost breakdown together with supporting data.

11.9 Allowances: It is understood that the CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such material men, suppliers, or Subcontractors and for such sums within the limit of the allowances as the ENGINEER may approve. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The CONTRACTOR agrees that the original Contract Price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

11.9.1 These allowances shall cover the cost to the CONTRACTOR less any applicable trade

discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes.

11.9.2 The CONTRACTOR'S costs for unloading and handling on site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Price and not in the allowance.

11.9.3 Whenever the cost, as described in 11.9.1 above, is more than or less than the allowance, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses, except that whenever unit price allowances are stipulated for brick, the Change Order will not include any cost as described in 11.5 above.

## **ARTICLE 12 - CHANGE OF THE CONTRACT TIME:**

12.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to OWNER and ENGINEER within ten days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

12.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if he makes a claim therefore as provided in paragraph 12.1. Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by OWNER, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3 All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of the Article 12 shall not exclude recovery for damages (including compensation for additional professional services) for delay by either parties.

12.4 No claim for delay shall be allowed because of failure to furnish Drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

12.5 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

## **ARTICLE 13 - GUARANTY:**

13.1 The CONTRACTOR shall guarantee all materials and equipment furnished and Work

performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs or adjustments, in the Work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

#### **ARTICLE 14 - PAYMENTS AND COMPLETION:**

##### **Payments to Contractors:**

14.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within sixty (60) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER may retain a portion of the amount otherwise due the CONTRACTOR. Except as State law otherwise provides, the amount the OWNER retains shall be limited to the following:

14.1.1 Withholding of not more than 10 percent of the payment claimed until work is 50 percent complete;

14.1.2 When Work is 50 percent complete, reduction of the withholding to 5 percent of the dollar value of all Work satisfactorily completed to date, provided that the CONTRACTOR is making satisfactory progress and there is no specific cause for greater withholding;

14.1.3 When the Work is substantially complete (operational or beneficial occupancy), the withheld amount shall be further reduced below 5 percent to only that amount necessary to assure completion.

14.1.4 The OWNER may reinstate up to 10 percent withholding if the OWNER determines, at its discretion, that the CONTRACTOR is not making satisfactory progress or there is other specific cause for such withholding.

Contractor's Warranty of Title:

14.2 The CONTRACTOR warrants and guarantees that title to all work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the OWNER prior to the making of the Application for payment, free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens") and that no work, materials or equipment covered by an Application for Payment will have been acquired by the CONTRACTOR or by any other person performing the Work at the Site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.

Approval of Payments:

14.3 The ENGINEER'S approval of any payment requested in an Application for Payment shall constitute a representation by him to the OWNER, based on the ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the Application of Payment and the supporting data, that the Work has progressed to the point indicated; That, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval), and that the CONTRACTOR is entitled to payment of the amount approved. However, by approving any such payment, the ENGINEER shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences, and procedures of construction or that he has made any examination to ascertain how or for what purpose the CONTRACTOR has used the moneys paid or to be paid to him on account of the Contract Price, or that title to any Work, materials, or equipment has passed to the OWNER free and clear of any Liens.

14.4 The CONTRACTOR shall make the following certification on each request for payment:

"I hereby certify that the labor and materials listed on this request for payment has been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location; and payment received from the last request for payment has been used to make payments to all first tier subcontractors and suppliers except as listed below."

14.5 The ENGINEER'S approval of final payment shall constitute an additional

representation by him to the OWNER that the conditions precedent to the CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.11 have been fulfilled.

14.6 The ENGINEER may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the OWNER. He may also refuse to approve any such payment, because of subsequently discovered evidence or the results of subsequent inspections or tests nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the OWNER from loss because:

14.6.1 The Work is defective, or completed Work has been damaged requiring correction or replacement,

14.6.2 The Work for which payment is request cannot be verified,

14.6.3 Claims or Liens have been filed or there is reasonable evidence indicating the probable filing thereof,

14.6.4 The Contract Price has been reduced because of Modifications,

14.6.5 The OWNER has been required to correct defective Work or complete the Work in accordance with paragraph 13.1,

14.6.6. Of unsatisfactory prosecution of the Work, including failure to clean up as required by paragraphs 6.29 and 6.30,

14.6.7. Of persistent failure to cooperate with other contractors on the Project and persistent failure to carry out the Work in accordance with the Contract Documents,

14.6.8. Of liquidated damages payable by the CONTRACTOR or,

14.6.9. Of any other violation of, or failure to comply with, the provisions of the Contract Documents.

14.7 Prior to Substantial Completion, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the Work. Such use shall not constitute and acceptance of such portions of the Work.

14.8 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the Work, or restoration of any damaged Work, except such as may be caused by agents or employees of the OWNER.

14.9 Upon completion and acceptance of the Work, the ENGINEER shall issue a certificate attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within sixty (60) days of completion and acceptance of the Work.

14.10 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the Contract Documents by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

#### Acceptance of Final Payment as Release:

14.11 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this Work and for every act and neglect of the OWNER and others relating to or arising out of this Work. Any payment however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

### **ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION:**

#### Owner May Suspend Work:

15.1 The OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the CONTRACTOR and the ENGINEER which shall fix the date on which Work shall be resumed. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if he makes a claim therefore



as provided in Articles 11 and 12.

Work During Inclement Weather:

15.2 No Work shall be done under these Specifications except by permission of the OWNER when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the CONTRACTOR, upon the direction of the OWNER, shall suspend all work until instructed to resume operations by the OWNER and the Contract Time shall be extended to cover the duration of the order. Work damaged during periods of suspension due to inclement weather shall be repaired and/or replaced by the CONTRACTOR. Any compensation for repairs or replacements shall be subject to approval of the OWNER.

Owner May Terminate:

15.3 If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property; or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or he disregards laws, ordinances, rules regulations or orders of any public body having jurisdiction, or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the Contract Documents, then the OWNER may without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety seven days written notice, terminate the services of the CONTRACTOR and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the Work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR or the Surety will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a Change Order.

15.4 Where the CONTRACTOR'S services have been so terminated by the OWNER, said terminations shall not affect any rights of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys by the OWNER due the CONTRACTOR will not release the CONTRACTOR from liability.

15.5 Upon seven days written notice to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the CONTRACTOR shall be paid for all Work executed and any expense sustained plus a reasonable profit.

Removal of Equipment:

15.6 In the case of termination of this Contract before completion, for any cause whatever, the CONTRACTOR if notified to do so by the OWNER, shall promptly remove any part or all of his equipment and supplies from the property of the OWNER. Should the CONTRACTOR not remove such equipment and supplies, the OWNER shall have the right to remove them at the expense of the CONTRACTOR. Equipment and supplies shall not be construed to include such items for which the CONTRACTOR has been paid in whole or in part.

Contractor May Stop Work or Terminate:

15.7 If, through no act or fault of the CONTRACTOR, the Work is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any Application for Payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR any sum approved by the ENGINEER or awarded by court ruling within thirty (30) days of its approval and presentation, then the CONTRACTOR may, upon seven (7) days written notice to the OWNER and the ENGINEER, terminate the Agreement and recover from the OWNER payment for all Work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the Agreement, if the ENGINEER has failed to act on an Application for Payment or the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon seven (7) days notice to the OWNER and the ENGINEER stop the Work until he has been paid all amounts then due.

Owner Furnished Equipment:

15.8 In case the OWNER furnishes equipment to the CONTRACTOR to install, but fails to deliver it to the CONTRACTOR as required and in case such failure causes the CONTRACTOR additional expense or need for extension of time, the CONTRACTOR may make such claims upon the OWNER and obtain adjustments as provided herein.

Liquidated Damages:

15.9 If the CONTRACTOR shall fail to complete the work within the contract time, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the Contract Documents for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract Documents.



## **ARTICLE 16 - DISPUTE SETTLEMENT:**

16.1 All claims, disputes and other matters in question arising out of, or relating to, this Agreement or the breach thereof except for claims which have been waived by the making or acceptance of final payment as provided by paragraph 14.11, shall be decided in a court of competent jurisdiction.

## **ARTICLE 17 - MISCELLANEOUS:**

17.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

17.2 If the OWNER fails to make payment sixty (60) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such progress payment, interest at 1% per month commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

17.3 All Specifications, Drawings and copies thereof furnished by the ENGINEER shall remain his property. They shall not be used on another Project, and, with the exception of those sets which have been signed in connection with the execution of the Agreement, shall be returned to him on request upon completion of the Project.

17.4 The duties and obligations imposed by these General Conditions, and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.36 and 14.3 and the rights and remedies available to OWNER and ENGINEER there under, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available by law, by special guarantee or by other provisions of the CONTRACT DOCUMENTS.

17.5 Should the OWNER or the CONTRACTOR suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employee or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

17.6 The CONTRACT DOCUMENTS shall be governed by the law of the place of the Project.

### **Progress Charts and Requirements for Overtime Work**

17.7 The CONTRACTOR shall within 5 days or within such time as determined by the OWNER after date of commencement of work prepare and submit to the OWNER for

approval a practicable schedule, showing the order in which the CONTRACTOR proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plans and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The CONTRACTOR shall enter on the chart the actual progress at such intervals as directed by the OWNER and shall immediately deliver to the OWNER three (3) copies thereof. If the CONTRACTOR fails to submit a progress schedule within the time herein prescribed, the owner may withhold approval of progress payment estimates until such time as the CONTRACTOR submits the required progress schedule.

If, in the opinion of the OWNER, the CONTRACTOR falls behind the progress schedule, the CONTRACTOR shall take such steps as may be necessary to improve his progress and the OWNER may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or update the progress schedule to reflect increased production for meeting the completion date, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the OWNER.

Failure of the CONTRACTOR to comply with the requirements of the OWNER under this provision shall be grounds for determination by the OWNER that the CONTRACTOR is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination the OWNER may terminate the CONTRACTOR'S right to proceed with the work or any separable part thereof in accordance with the clause of the contract entitled, "Termination for Default-Damages for Delay - Time Extensions.

Should the Contractor fail to complete the work within the specified time, or within any extra time allowed under these specifications, a sum of money, determined by the following schedule, shall be deducted from any funds due the Contractor, the Owner shall have the right recover the said sum or sums from the Contractor or from the surety, or from both. The amounts of these deductions are to cover the liquidated damages to the Owner incurred by additional or other expenses due to the failure of the Contractor to complete the work or any part of the work within the time specified, and such deductions are not to be considered penalties.

The damages indicated above shall be considered as liquidated damages for the loss to the Owner on account of the expense due to the employment of Engineers and their assistants and to any others expenses incurred after the expiration of the Contract time as determined by the Engineer.

## MEASUREMENT AND PAYMENT

Measurement and Payment for the following bid items shall be as described and shall include all material, equipment, labor, testing, etc. to install and make operational a complete water system as detailed on the contract drawings and as specified in the contract documents.

### DUCTILE IRON, PVC and HDPE WATER SYSTEMS

Payment for item shall include furnishing and installing all pipe, trenching, compaction of required bedding and backfill excavation, disposal of excess excavated material sheeting, shoring, bracing, dewatering, testing, fittings, reducers, flushing the system and related items not specifically covered under other pay items. The contract price shall be determined by the measured distance of pipe installed and accepted per linear foot.

### STEEL CASING

Payment for installation of bored or open cut steel casing shall include furnishing and installing all steel pipe, spacers, end caps, excavating, compaction of backfill, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing and related items not specifically covered under other pay items. Length shall be determined by the measured distance of casing pipe installed and accepted per linear foot.

### CONNECTION ITEMS

Payment for connection items shall include installation of reducers, fittings, valve boxes, trenching, excavation, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring bracing, dewatering, testing, flushing and related items not specifically covered under other pay items as depicted on the construction plans. Pay shall be determined per each.

### GATE VALVES

Payment for installation of gate valves shall include furnishing gate valves, valve boxes, trenching, excavating, compaction of backfill, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items as depicted on the construction plans. Pay shall be determined per each.

### FIRE HYDRANT WITH APPURTENANCES

Payment for installation of fire hydrant with appurtenance shall include furnishing fire hydrant, gate valve, valve box, piping, trenching, excavating, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items. Pay shall be determined per each to include fire hydrant, tees, gate valve, valve box, pipe and other miscellaneous items as required to provide an operational hydrant. Pay shall be determined

per each.

#### FIRE SUPPRESSION CONNECTION

Payment for installation of fire suppression connection with appurtenance shall include furnishing tee, gate valve, valve box, piping, disconnection from existing system, connection to new system, trenching, excavating, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items. Pay shall be determined per each to include tees, gate valve, valve box, pipe and other miscellaneous items as required to provide an operational fire suppression connection. Pay shall be determined per each.

#### SERVICE TAP

Payment for residential or commercial service tap shall include all fittings, corporation stop, curb stop, tubing, materials, labor and equipment to provide a new water service. Item shall include connection from new water line to existing water meter to remain. Completion of item shall be a fully functional water service. Item shall be paid per each.

#### SERVICE TUBING (BORED):

Payment for installation of service tubing bored shall include furnishing and installing service tubing under existing asphalt, concrete or other area determined by the engineer to remain in place. Item shall include all boring, excavating, compaction of backfill, disposal of excess excavated material etc to install service tubing as bored. Pay shall be measured from edge to edge of existing concrete or asphalt and paid per linear foot.

#### RESIDENTIAL METER

Payment for residential meter shall include all components, labor and equipment for a fully operational water meter. Meter shall meet the requirements of the plans and specifications and function fully within the existing system. Item shall include meter, box and any necessary fittings and shall be paid per each.

#### REMOVAL OF FIRE HYDRANT WITH APPURTENANCES

Payment for removal of fire hydrant with appurtenance shall include removal of existing fire hydrant, gate valve, piping, trenching, excavating, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring, bracing, dewatering and related items not specifically covered under other pay items to fully remove an existing fire hydrant. Pay shall be determined per each to include fire hydrant, tees, gate valve, pipe and other miscellaneous items as required to remove, secure and transport to an area designated by the owner. Pay shall be determined per each.

#### ABANDONMENT OF EXISTING WATER MAIN

Payment for item shall include furnishing and installing flowable fill concrete in designated pipe locations as shown on the construction drawings to abandon existing water line pipe. Pay shall include all pumping, concrete, plugs, etc to fully fill the abandoned water main. The contract price shall be determined by the measured

distance of pipe abandoned and accepted per linear foot.

#### REMOVE AND RESET EXISTING STORM DRAIN

Payment for item shall include removal of existing storm sewer components to allow installation of the water system components. Item shall include all materials, labor, and equipment necessary to remove existing structures without damage and reset in the proper location. Should damage to the existing drainage structure be the result of improper removal, a new structure shall be provided by the contractor at no cost to the owner. The contract price shall be determined by the percentage of the project complete and paid by lump sum.

#### SELECT FILL MATERIAL:

Payment for installation of select fill shall include furnishing and installing granular material as specified in the contract documents and as directed by the Engineer. The unit measurement shall be loose vehicular measurement, L.V.M. Pay shall be determined per cubic yard.

#### ASPHALT PAVEMENT REPAIR

Payment for asphalt repair shall include furnishing and installing asphalt pavement as specified in the plans and specifications. Item shall include material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per ton.

#### CONCRETE PAVEMENT REPAIR

Payment for concrete pavement repair shall include furnishing and installing concrete pavement as specified in the plans and specifications. Item shall include forming, material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per square yard.

#### CONCRETE CURB AND GUTTER

Payment for concrete curb and gutter shall include removal, grading, forming, materials, placement, compaction and testing necessary to match existing curb and gutter. Item shall be paid per linear foot.

#### TEMPORARY EROSION CONTROL

Payment for erosion control shall include furnishing, installing and maintaining silt fence or other erosion control measures as required by current Mississippi Department of Environmental Quality standards. Erosion control measures shall be installed and maintained as planned by the contractor or as directed by the Engineer to prevent erosion under or excess siltation within 24 hours of a rain event. The unit measurement shall be lump sum and includes any required maintenance.

#### GRASSING

Basis of payment shall include the vegetation schedule as noted and shall be according

to the Mississippi Standard Specifications for Road and Bridge Construction, Latest Edition. The unit of measurement shall be lump sum.

#### MAINTENANCE OF TRAFFIC

Payment for maintenance of traffic will be lump sum. Item shall include all materials, labor and equipment to maintain traffic based on the current MUTCD or as required by the Engineer.

#### MOBILIZATION

Payment for mobilization shall enable contractor to assemble materials, equipment, etc. on site to prepare for construction. The unit measurement shall be lump sum. Mobilization shall be paid 50 percent at 5 percent of construction complete and 100 percent at 25 percent of construction complete.

## **WATER SYSTEMS**

### **1) GENERAL**

- a) This item shall consist of furnishing all of the necessary materials, supervision, labor, tools, equipment and incidentals, and the installation of various types and sizes of water pipe and related items in accordance with the contract drawings and specifications, as stated in the Proposal.

### **2) APPLICABLE PUBLICATIONS**

- a) The following publications form a part of these specifications and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

- i) **AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)**

- A 139 Electric-Fusion (Arc) welded steel pipe (sizes 4 inch and over).

- A 252 Welded and Seamless steel pipe piles.

- C 31 Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field.

- C 33 Concrete Aggregates

- C 39 Test for Compressive Strength of Cylindrical Concrete Specimens.

- D 2922 Density of Soil Aggregate in place by the clear Method (shallow depths).

- ii) **AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)**

- 21.10 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch for Water and other Liquids.

- 21.11 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.

- 21.50 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-line Molds, for Water or other Liquids.

- iii) **AMERICAN WATER WORKS ASSOCIATION (AWWA)**

- C 104 Cement-Mortar Lining for Cast Iron Pipe and Fittings for Water and Other Liquids.

- C 106 Cast Iron Pipe Centrifugally Cast in Metal Molds, for water and other Liquids.

- C 110 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids.



C 111 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.

C 150 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or other Liquids.

iv) AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO)

T-88 Particle Size Analysis of Soils.

T-89 Determining the Liquid Limit of Soils.

T-90 Determining the Plastic Limit and Plasticity Index of Soils.

T-99 Moisture Density Relations of Soils Using a 5.5 lb. Rammer and 12 inch Drop.

T-191 Density of Soil In-Place by the Sand-Cone Method.

v) MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Standard Specifications for Road and Bridge Construction 1990 Edition.

**3) SUBMITTALS**

a) The following submittals shall be required for the respective materials used in the work. All submittals shall be submitted through the Contractor to the Engineer.

i) Ductile Iron Pipe: The following submittals shall be required for ductile iron pipe systems utilized on the project. The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements as specified hereinafter under Article 4.0, Materials. In addition, the submittals shall include the following:

(1) Joints: The following shall be required for ductile iron joints.

(2) Drawings or Manufacturer's Catalogue data indicating dimensions and tolerance.

(3) Gaskets shall be tested in accordance with the respective standards as indicated in ANSI 21.11 and results shall be included in the submittals. Test shall be for similar materials on the gaskets and be not more than one year old.

(4) Mechanical Joints: Should the Contractor elect to use mechanical joints in lieu of push-on joints, manufacturer's data shall be submitted in accordance with the "Special Requirements for the Mechanical Joint" as stated in ANSI 21.11 (AWWA C 111).

ii) Ductile Iron Pipe Submittal Shall Include the Results of:

(1) Tension Test

(2) Impact Test



(3) Low Temperature Impact Test

Sampling procedure shall be as indicated in ANSI 21.51.

- b) PVC Pipe: The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements of these specifications and appropriate construction drawings.

4) **MATERIALS - WATER SYSTEM**

a) Ductile Iron Pipe:

- i) Ductile iron pipe shall be designed in accordance with the latest revision of ANSI/AWWA C51/A21.51), rated working pressure of 350 psi plus a 100 psi surge allowance; a 2 to 1 safety factor on the sum of working pressure plus surge pressure in Type 3 laying condition with a depth of cover as required per plans.
- ii) Pipe shall have standard asphaltic coating on the exterior. Pipe also shall have a cement mortar lining on the interior in accordance with the latest revision of ANSI/AWWA C104/A21.4. If corrosion protection is required, polyethylene encasement shall be installed prior to the pipes installation in accordance with ANSI/AWWA C105/A21.5-88.
- iii) All non-restrained pipe shall be furnished with push-on type joints such as "Fastite," or equal. Joints shall be in accordance with the latest revision of ANSI/AWWA C111/A21.11 and shall be furnished complete with all necessary accessories.
- iv) Where restrained joint pipe is required, "Fast Grip", "Flex-Ring", or "Field Flex-Ring" or approved equal shall be used. The length of restrained pipe shall be as tabulated or noted on the plans.
- v) Ductile iron fittings shall conform to the latest revisions of either ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53. Fittings, linings, and coatings shall be as specified for the pipe above.
- vi) All pipe, fittings and accessories shall be installed and tested in accordance with the latest revision of AWWA C600. Newly installed ductile iron water mains shall be disinfected in accordance with the latest revision of AWWA C651 prior to placing in service.

b) PVC Pipe

- i) PVC pipe for this project shall be PVC, C-900, Class 200. This standard covers the installation of Pressure Class 100, 150 and 200 PVC pipe complying with AWWA Standard C-900-89. PVC pipe shall bear the National Sanitation seal for potable water.
- ii) The pipe shall be equipped with a push on joint in a single elastomeric gasketed joint. It is assembled by positioning the elastomeric gasket in the annular groove of the bell and inserting the spigot end of the pipe into the bell. The spigot end of the pipe compresses the gasket radially to form a positive seal. The gasket and annular groove are designed, sized and shaped so that the gasket will resist displacement. Care shall be taken so that only the correct elastomeric gasket, compatible with the annular groove of the bell, is used. Insertion of the elastomeric gasket in the annular groove of the bell must be in accordance with the manufacturer's recommendations.

c) Gate Valves:

- i) Where indicated on the Plans or directed by the ENGINEER, the CONTRACTOR shall furnish and install gate valves as hereinafter specified.
- ii) All gate valves shall be cast iron mechanical joint, Mueller A-2360, equivalent or better. All gate valves shall be furnished with O-ring packing and 2" square operating nut, AWWA 200lb., for cast iron water main.
- iii) Valve boxes shall be cast iron top and bottom. Extension pieces shall be provide as required.
- iv) Payment for furnishing and installing gate valves with box shall be made at the contract unit price per valve according to type and size as listed in the proposal.
- v) All valves will be set at a perfect 90 degree angle from level pipe, (perpendicular) so as to be easily accessible through properly set valve box as per specifications above.
- vi) The CONTRACTOR shall furnish and install either a two-piece or three-piece, slip type, cast iron valve box over each gate valve. Valve boxes will be set over valve operating nut, centered so as to be easily accessible with a valve operating wrench or key. They will be set to correspond with the finished grade of street, lot, or easement. No dirt will be left in box; box will not rest directly on valve body.

d) Fittings, Valves and Hydrants, etc.

- i) All fittings, valves and valve boxes, hydrants, and other appurtenances are to be set at the points indicated on the plans, or as directed by the ENGINEER, and omission to do so shall be corrected by the CONTRACTOR without extra cost to the OWNER.
- ii) All fittings shall either be Ductile Iron Compact (ANSI/AWWA C153/A21.53) or Cast Iron (ANSI/AWWA-C110/A21-10) and shall have mechanical joint ends and mechanical joint restraints (Series 1120) and shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A 536-80. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices.
- iii) The mechanical joint restraint device shall have a working pressure of a least 250 psi with a minimum safety factor of 2:1 and shall be EBAA Iron., MEGALUG or equal.
- iv) To improve the sealing capacity, the gaskets for all mechanical joints conforming to the requirements of ANSI/AWWA C110/A/21.10, C111/A21.11, or C153/A21.53 shall be of a design that causes the gasket to deflect approximately 30% during assembly of the mechanical joint. The gasket material shall conform to the requirements of ANSI/AWWA C111/A21.11, Section 1-6.4 of the latest revision. Mechanical joint gaskets shall be EBAA Iron's EBAA Seal- Improved Mechanical Joint Gasket or approved equal.
- v) Fittings (bends, tees, plus, and caps) shall be securely braced by mechanical joint restraints, as

indicated on the Plans, to prevent the possibility of blowing off under pressure. And a full length of pipe shall be installed on each end of the fitting. Then cut pieces can be installed beyond the full lengths of pipe.

- vi) The prices bid furnishing and installing valves, fittings, etc., shall include compensation for furnishing mechanical joint restraints as required at beds, tees, plugs and caps. No separate or extra compensation will be allowed for any of the above specified incidental work or material.

e) Plugs and Caps

- i) Where indicated on the Plans, or as directed by the ENGINEER, the CONTRACTOR shall install plugs for anticipated future extensions by placing a branch fitting (tee or cross) in the line and plugging the unused branch or branches. In general, such plugs will be located at street intersections where present plans provided lines running in only two or three directions from the intersections and where, in the opinion of the ENGINEER, a connection may be required for future extension. Where "deadend" lines are installed, the ends of such lines shall be plugged or capped as required.
- ii) For the various hot taps required according to the plans, and up to 12 inches, the JCM 432, stainless Tapping Sleeve shall be required. The CONTRACTOR shall furnish all materials for these various taps and the OWNER will actually make the tap.
- f) Casing Pipe: Steel pipe utilized as casing at locations shown on the Contract Drawings shall be new round piling pipe conforming to the requirements of ASTM A 252 or A 139. Casing diameter shall be adequate to allow pushing of the specified diameter of water pipe and make proper connections at the ends. Minimum Wall Thickness for steel casing is 0.375 inch.
- g) Wash Gravel Bedding Material: Select Granular material for pipe bedding shall be coarse concrete aggregate. The coarse concrete aggregate shall conform to the gradation sizing Number 467 specified in Table 2 of ASTM Standard Specification C-33. (See Following Table.)

**SIZE No. 467**

Nominal Size (Sieves w/Square Openings)	Percent Passing by Weight
2"	100
1-1/2"	95—100
3/4"	35—70
3/8"	10—30
No. 4	0—5

- h) Stabilization Material: Stabilization Material shall be a pit run mixture of sand and gravel. The sand shall be hard, sharp and durable particles. All gravel shall pass a 1 - 1/2" sieve.
- i) Concrete: Concrete shall be in accordance with the requirements of Technical Specifications - CONCRETE.
- j) Select Backfill
  - i) General: The select material shall be composed of a natural or artificial mixture of sand, silt,

clay or soil binder or other material of satisfactory cementing value. The sand shall be hard, sharp, and durable particles, preferably siliceous. The binder shall be a grade of clay or other material having satisfactory cementing qualities and shall be homogenous in character, free from vegetable matter, clay balls or other deleterious substances that cannot be classed as serviceable base material.

- ii) Gradation : Any coarse aggregate contained in the material shall pass the one and one-half (1-1/2); sieve and not more than thirty-five percent (35%) shall be retained in the Number 10 sieve. The plasticity index (P.I.) shall not exceed 12, nor shall the liquid limit exceed 30.
- iii) The composite selected sand-clay material passing the Number 10 sieve shall conform to the following minimum and maximum gradation limits:

Sieve	Percent Passing by Weight
Number 40	40–85
Number 60	30–70
Number 270	8–30
Silt (.05 to .005 mm)	03–15
Clay (Passing .005 mm)	3--15

- iv) Backfill: All other backfill shall consist of excavated material removed from the trench.

## 5) CONSTRUCTION

### a) Earthwork

#### i) Site Preparation:

- (1) Topsoil shall be stripped and stockpiled in accordance with Technical Specifications - Restoration of Roads, Driveways, Fences, Lawns, and other Grassed Areas.
- (2) All vegetation such as brush, heavy sod, heavy growth of grass, decayed vegetative matter, rubbish and any other unsuitable material within the area of trenching shall be stripped or otherwise removed before the trenching is started, and in no case shall such objectionable material be allowed in the trench.

(3) Stripping operation shall be to a depth of not less than 6 inches in all cases.

- b) Asphalt or Concrete Removal: Before trenching operations begin, the existing asphalt or concrete pavement shall be scored or cut to a proper depth to give a straight vertical edge when removed. The asphalt or concrete shall be disposed of offsite by the Contractor. While removing the asphalt or concrete in the trench line, never shall the adjacent asphalt be raised or pulled from its base.

### c) Trenching:

- i) The Contractor shall determine all requirements for trench dimensions, alignment, and grades. The trench shall be excavated in conformance with all federal, state and local regulations for the protection of the workmen. Shoring, sheeting and/or a moveable form shall be used as required to provide earth stability during the laying operations.

- ii) The final excavation of the trench for the pipe installation shall be as indicated on the Plans. Minor variations in horizontal (within the permanent easement) or vertical alignment during construction shall be made during construction (with the Engineer's approval) to facilitate ease of installation and operation (due to potential conflicts; i.e., utility conflict) at no additional cost to the Owner except for additional piping, if any. The trench from the top of the pipe down to the bottom of the bedding shall be of a consistent width as indicated on the plans. Should the excavated width of the trench be larger than the design width, the Engineer may direct that a higher type or class of bedding be used; or other adjustments be made to increase the load carrying capacity of the pipe.
  - iii) The Contractor shall not excavate more trench in advance of pipe laying than is necessary to perform the work efficiently. No more than 100 feet of open trench shall be allowed unless approved by the Engineer.
  - iv) Excavated material shall be placed in a manner that will not obstruct sidewalks, driveways, or other structures. Excavated material shall not be placed so as to surcharge the walls and jeopardize trench stability.
- d) Disposal:
- i) The Contractor shall satisfactorily dispose of all excess earth from excavations either in approved (by the Engineer) areas within the construction limits or away from the project in disposal sites obtained by the Contractor.
  - ii) The Contractor will be permitted to mound excess earth over the trench to a maximum depth of 12 inches above the original ground surface or finished grade where the trench is located in unimproved property. Wasting of excess excavated material will not be permitted within any road ROW. All material within the construction limits shall be placed so that natural drainage is maintained and the surface shall be graded to a smooth and uniform appearance. The disposal of waste and excess excavating materials, including hauling, handling, grading, and surfacing shall be subsidiary obligation of the contractor and no separate payment will be made. Therefore, the cost of such work shall be included in the Contract Unit Price for installation of water pipe.
- e) Dewatering
- i) The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches and dikes and shall perform all pumping and other work necessary to divert or remove rainfall and other accumulations of surface water from the excavations. The diversion and removal of surface water performed in a manner that will prevent the accumulation of water behind temporary structures or at any other locations within the construction area where it may be detrimental. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hoses, piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least one foot below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of one foot below the lowest excavation subgrade made until the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures.
  - ii) Where groundwater is encountered, the Contractor shall make the effort necessary to secure a dry trench bottom before laying pipe. In sandy and in other suitable type soils, dewatering

shall be done by well pointing. If, in the opinion of the Engineer, the Contractor has failed to obtain an absolutely dry trench bottom by insufficient use of all known methods of trench dewatering, the Engineer may order the Contractor to excavate below grade and place not less than 6 inches of graded crushed stone fill material over the trench bottom to form trench drains to suitably located sumps and to remove the water by bailing or pumping. The graded crushed stone fill material shall be placed at the Contractor's own expense and shall be of such depth that there shall be not water in bell holes at the time of coupling pipe. All costs of equipment, labor, and materials required for dewatering shall be included in the bid price.

f) Bedding

i) The Contractor shall satisfactorily shape the trench area (to specified line, grade and cross section) to receive bedding material. The bottom of the trench shall be undisturbed soil. Should the Contractor over excavate the trench without direction from the Engineer, the trench shall be brought up to grade with select backfill and compacted to at least 90% of maximum laboratory density as measured by AASHTO T 99. Such additional work and materials for over excavation without direction of the Engineer shall be at the expense of the Contractor.

ii) Holes for the bells shall be provided at each joint in the subgrade or in the granular fill bedding material as required. The holes shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the material. The Contractor shall install the proper bedding for the respective type of pipe and depth of installation as shown in the details and schedules on the plans. When depths vary in a particular manhole run, the Contractor shall change bedding systems in accordance with the depth installation requirements.

iii) Stabilization Materials: When the subgrade is found to be unstable or to include ashes, refuse, organic material, or other unsuitable material, the Engineer may direct that the subgrade be over excavated to remove such material. The depths of over excavation shall be as directed by the Engineer. Stabilization material shall be placed into the over excavated area of the trench and shall be paid for in accordance with these specifications. Stabilization shall be compacted to at least 90% of maximum laboratory density in six inch lifts.

iv) Bedding Materials

(1) As detailed in the plans, bedding material shall be placed to the specified depth below the pipe and tamped to a minimum of 90% of maximum laboratory density as determined in accordance with AASHTO T 99. Following placement of pipe, additional bedding material shall be placed and consolidated under the haunches of the pipe. Special tools shall be required to work the material into place and leave no voids beneath the pipe. The bedding material shall be tamped along the spring line (or along the top of the bedding material as indicated) of the pipe to sufficiently compact the material insofar as practical.

(2) The Engineer may direct additional moisture be added to the bedding material to aid in the compaction effort. Mechanical tampers may be employed to aid the process. depending on the particular bedding required, additional bedding shall be added and tamped to a minimum of 90% of maximum laboratory density, with AASHTO T-99.

v) Select Backfill: Select backfill shall be placed in 6 inch lifts and tamped to a minimum laboratory density with AASHTO T-99. Overall depth of the select backfill shall be as directed by the Engineer.



- vi) Normal Condition Bedding: Under normal conditions the trench bottom shall be undisturbed earth shaped to the specified line, grad, and cross section with proper bell holes at each joint to insure that pipe barrel lies flat on trench bottom. The bedding material will be selected native materials excavated from the trench and placed in two lifts. The first lift being placed up to the spring line of the pipe and extending out to the trench walls and hand tamped to a minimum of 90% of maximum laboratory density. Special care shall be used in placing and tamping bedding to insure no voids under the haunches of the pipe. The second lift shall extend to approximately 6" above pipe (Material permitting) and hand tamped to 90% density.
- g) Backfilling: Upon completion of placement of select material the excavated materials shall be immediately placed back into the trench. Specific requirements are:
- i) Backfill requirements for road crossings, parking lots, driveways, and sidewalks shall be in accordance with Technical Specifications - RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS and OTHER GRASSED AREAS.
  - ii) Backfill requirements for unimproved areas (pastures, wooded areas) shall consist of placement and shaping of the soil in such a manner as to allow maximum natural consolidation. No compaction of the general backfill in the unimproved areas will be required, except that caused by conventional shaping equipment.
  - iii) No debris shall be used as backfill which has a volume in excess of one-half of one cubic foot or weight excess of 75 pounds.
- h) Sheeting Removal: Wooden sheeting or other thick sheeting or shoring members which have been driven or otherwise placed along the trench walls to an elevation below the spring line of the pipe shall be cut off at the spring line or higher and left in place.
- i) Grading and Grassing: Final grading and grassing shall be in accordance with Technical Specifications, "RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS, and OTHER GRASSED AREAS."
- j) Pipe Handling and Storage: Pipe shall be handled, staked, and stored in accordance with manufacturer's printed literature. The Contractor shall provide security as required to prevent damage by vandals. PVC pipe shall be shaded from sunlight for extended lengths of time. Pipe damaged during storage and handling shall be rejected.
- k) Pipe Laying
- i) Each pipe shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the water shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. Trenches shall be kept free of water and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At times when work is not in progress, open ends of pipe and fittings shall be securely and satisfactorily closed so that no trench water earth or other substance will enter the pipe or fittings.
  - ii) The water main shall maintain a minimum of 30 inches of cover at all times.

- iii) Pipe laying shall be performed in such a manner that no foreign material enters the pipe. The Engineer may require that before lowering pipe, heavy canvas bags be placed over each end, and left in place until joints are ready to be made. If water is in the trench, the seals shall remain in place until the trench is pumped completely dry. If conditions are unsuitable, no pipe shall be laid until satisfactory laying conditions are obtained in accordance with the above specified requirements.
  - l) **Pipe Jointing:** Piping shall be jointed in accordance with the manufacturer's printed recommendations. Gaskets shall be firmly set within the bells and grooves as required. The manufacturer's recommended lubricant or an approved equal shall be applied for slip type joints.
    - i) **Ductile Iron Pipe Joint Construction:** The installation and jointing of ductile iron pipe shall generally conform to the applicable provisions of AWWA Standard Specifications C-600 for pipe laying.
    - ii) Where mechanical joint pipe is used, the surfaces which come in contact with the gasket shall be thoroughly brushed with a wire brush just prior to assembly. The gasket should be brushed with soapy water prior to installation to remove loose dirt and to lubricate gasket as it is forced into its retaining space.
    - iii) When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly. The bolts should be partially tightened; the bottom bolt first, then the top; next the bolts on either side; and last, the remaining bolts. Overstressing of bolts to compensate for poor installation will not be permitted. Bolt torque shall be in accordance with manufacturer's specifications.
    - iv) All joints of whatever type shall be completely water tight after being subjected to the required tests.
  - m) **Borings:** Borings shall be accomplished in accordance with Mississippi State Highway Department Standards. The contractor shall provide all necessary sheeting, bracing, cribbing, supports and appurtenances to insure the proper line and grade throughout the entire length of the crossing.
    - i) **Casing Pipe:** Casing Pipe shall be installed as indicated on the Contract Drawings. Joints shall be completely welded to provide structural integrity and shall be watertight.
    - ii) **Carrier Pipe:** Carrier pipe may be any of the allowed options of piping. However, the piping and joints shall be capable of withstanding the stress exerted by pushing the pipe within the casing.
    - iii) **Carrier Pipe Supports:** Supports for the carrier pipe shall be as recommended by the manufacturer for such installation. Supports shall be spaced to adequately support the piping under all conditions.
    - iv) **Casing Seal:** The annulus between the casing and carrier pipe shall be sealed at each end by installing WMSON Type U end seals, as manufactured by T.D. Williamson, Inc. Tulsa, Oklahoma, or equal, in accordance with the instructions of the manufacturer of the seals.
- 6) **SEPARATION of WATER and SEWER MAINS:** The water and sewer specifications should state that the water line be constructed no less than 10 feet horizontally and 18" vertically with water line



over sewer line. If those conditions cannot be met then they will be decided on a case by case basis.

## 7) TESTING

### a) Ductile Iron Pipe

- i) Field Inspection: The Engineer shall perform visual inspection of the material prior to placement by the Contractor. The Engineer may make non-destructive tests to determine the soundness of the pipe. The Contractor shall assist the Engineer in handling and moving the pipe as required.
- ii) Material Test: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittals. No other material test shall be required.

### b) Steel Casing Pipe Material test shall be included as part of the submittal. No other material test shall be required.

### c) Compaction Tests

- i) Compaction tests shall be performed in accordance with AASHTO T 191 or ASTM D 2922. Maximum compaction shall be determined in accordance with AASHTO T 99.
- ii) Compaction tests for water pipe related work shall not be less than as follows:

NUMBER of COMPACTION TESTS AASHTO T-99, AASHTO T-191, or ASTM D 2922		
Stabilization Material	1	One per 100 C.Y.
Bedding material	2	One per 600 L.F.
Tamped Backfill	2	One per 600 L.F.

### d) Hydrostatic Testing

- i) After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 times the working pressure at the point of testing and not less than 1.25 times the working pressure along the test section, for a minimum of 2 hours.
- ii) And all tests shall be in accordance with AWWA Standard C600, Section 4.
- iii) Allowable leakage shall be no more than that determined by the following formula:

$$L = \frac{SD \sqrt{P}}{133,200}$$

- iv) In which L is the allowable leakage in gallons per hour; S is the length of pipe tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test in pounds per square inch.
- v) These tests are to be made at the Contractor's expense and he is to provide all necessary fittings, equipment, appliances and any other necessary items to conduct the tests in a manner satisfactory to the ENGINEER. All costs incidental to conducting these tests are to be included

in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore. Record of testing is to be furnished to the OWNER.

**8) CLEANING and STERILIZING**

- a) Before each section of work is placed in service, it shall be thoroughly flushed to remove any dirt or other foreign material from inside the lines; and the inside of the lines shall be sterilized by pumping into and through them a solution of chlorine of 50mg/l for 24 hours in such manner as to meet the requirements of the State Board of Health.
- b) At least two (2) samples of chlorine free water, taken from each section shall be submitted to the State Board of Health for examination to determine if the system is free from organisms of the Coli-Aerogenes group. If such samples are not negative from organisms of the Coli-Aerogenes group, the system shall be disinfected and re-disinfected in a manner meeting the requirements of the State Board of Health, until the system is freed of contamination.
- c) All water mains will be flushed, chlorinated and re-chlorinated until two (2) consecutive negative water samples are obtained by the Local Health Department. The samples shall be collected by the Certified Operator of the system or the Professional Engineer of the project.
- d) The CONTRACTOR shall be responsible for the conduct of all of the above defined activities, and any and all costs incident thereto shall be included in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore.

**9) WATER SERVICE**

- a) Service pipe shall be ¾" Polyethylene Plastic tubing meeting the following specifications:
  - i.) 200 PSI and complying with AWWA standards when tested by methods ASTM 1599, copper tube size (O.D.) farmable for use with standard heavy duty waterworks brass flare fittings.
  - ii.) Tubing shall comply with the standards and bear the seal of the National Sanitary Foundation.
  - iii.) All connections and fittings shall be Ford brand.

**10) TRACER WIRE**

a) Materials

1. General

- i.) All trace wire and trace wire products shall be domestically manufactured in the U.S.A.
- ii.) All trace wire shall have HDPE insulation intended for direct bury, color coated per APWA standard for the specific utility being marked, green for Sewer.

## 2. Trace wire

- i) Open Trench - Trace wire shall be #12 AWG Copper Clad Steel, High Strength with minimum 450 lb. break load, with minimum 30 mil HDPE insulation thickness.
- ii) Directional Drilling/Boring - Trace wire shall be #12 AWG Copper Clad Steel, Extra High Strength with minimum 1,150 lb. break load, with minimum 30 mil HDPE insulation thickness.
- iii) Pipe Bursting/Slip Lining - Trace wire shall be 7 x 7 Stranded Copper Clad Steel, Extreme Strength with 4,700 lb. break load, with minimum 50 mil HDPE insulation thickness.

## 3. Connectors

- i.) All mainline trace wires must be interconnected in intersections, at mainline tees and mainline crosses. At tees, the three wires shall be joined using a single 3-way lockable connector. At Crosses, the four wires shall be joined using a 4-way connector. Use of two 3-way connectors with a short jumper wire between them is an acceptable alternative.
- ii.) Direct bury wire connectors – shall include 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon filled to seal out moisture and corrosion, and shall be installed in a manner so as to prevent any uninsulated wire exposure.
- iii.) Non locking friction fit, twist on or taped connectors are prohibited.

## 4. Termination/Access

- i.) All trace wire termination points must utilize an approved trace wire access box (above ground access box or grade level/in-ground access box as applicable), specifically manufactured for this purpose.
- ii.) All grade level/in-ground access boxes shall be appropriately identified with “water” cast into the cap and be color coded.
- iii.) A minimum of 2 ft. of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
- iv.) All trace wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the trace wire connection and the terminal for the grounding anode wire connection.
- v.) Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.
- vi.) Service Laterals - Trace wire must terminate at an approved grade level/inground trace wire access box, located at the edge of the road right-of-way, and out of the roadway.
- vii.) Hydrants – Trace wire must terminate at an approved above-ground trace wire access box, properly affixed to the hydrant grade flange. (affixing with tape or plastic ties shall not be acceptable)

- viii.) Long-runs, in excess of 500 linear feet without service laterals or hydrants - Trace wire access must be provided utilizing an approved grade level/in-ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway. The grade level/in-ground trace wire access box shall be delineated using a minimum 48" polyethylene marker post, color coded per APWA standard for the specific utility being marked.

#### 5. Grounding

- i.) Trace wire must be properly grounded at all dead ends/stubs
- ii.) Grounding of trace wire shall be achieved by use of a drive-in magnesium grounding anode rod with a minimum of 20ft of #12 red HDPE insulated copper clad steel wire connected to anode (minimum 1.5 lb.) specifically manufactured for this purpose, and buried at the same elevation as the utility.
- iii.) When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance.
- iv.) When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with a mainline to lateral lug connector.
- v.) Where the anode wire will be connected to a trace wire access box, a minimum of 2 ft. of excess/slack wire is required after meeting final elevation.

#### b. Installation

##### 1. General

- i.) Trace wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512Hz) signal for distances in excess of 1,000 linear feet, and without distortion of signal caused by multiple wires being installed in close proximity to one another.
- ii.) Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.
- iii.) Any damage occurring during installation of the trace wire must be immediately repaired by removing the damaged wire, and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.
- iv.) Trace wire shall be installed at the bottom half of the pipe and secured (taped/tied) at 5' intervals.
- v.) Trace wire must be properly grounded as specified.
- vi.) Trace wire on all service laterals/stubs must terminate at an approved trace wire access box located directly above the utility, at the edge of the road right-of-way, but out of the roadway. (See Trace wire Termination/Access)

- vii.) At all mainline dead-ends, trace wire shall go to ground using an approved connection to a drive-in magnesium grounding anode rod, buried at the same depth as the trace wire. (See Grounding)
- viii.) Mainline trace wire shall not be connected to existing conductive pipes. Treat as a mainline deadend, ground using an approved waterproof connection to a grounding anode buried at the same depth as the trace wire.
- ix.) All service lateral trace wires shall be a single wire, connected to the mainline trace wire using a mainline to lateral lug connector, installed without cutting/splicing the mainline trace wire.
- x.) In occurrences where an existing trace wire is encountered on an existing utility that is being extended or tied into, the new trace wire and existing trace wire shall be connected using approved splice connectors, and shall be properly grounded at the splice location as specified.

## 2. Water System

- i.) A mainline trace wire must be installed, with all service lateral trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point.
- ii.) Lay mainline trace wire continuously, by-passing around the outside of valves and fittings on the North or East side.
- iii.) Trace wire on all water service laterals must terminate at an approved trace wire access box color coded blue and located directly above the service lateral at the edge of road right of way.
- iv.) Above-ground tracer wire access boxes will be installed on all fire hydrants.
- v.) All conductive and non-conductive service lines shall include tracer wire.

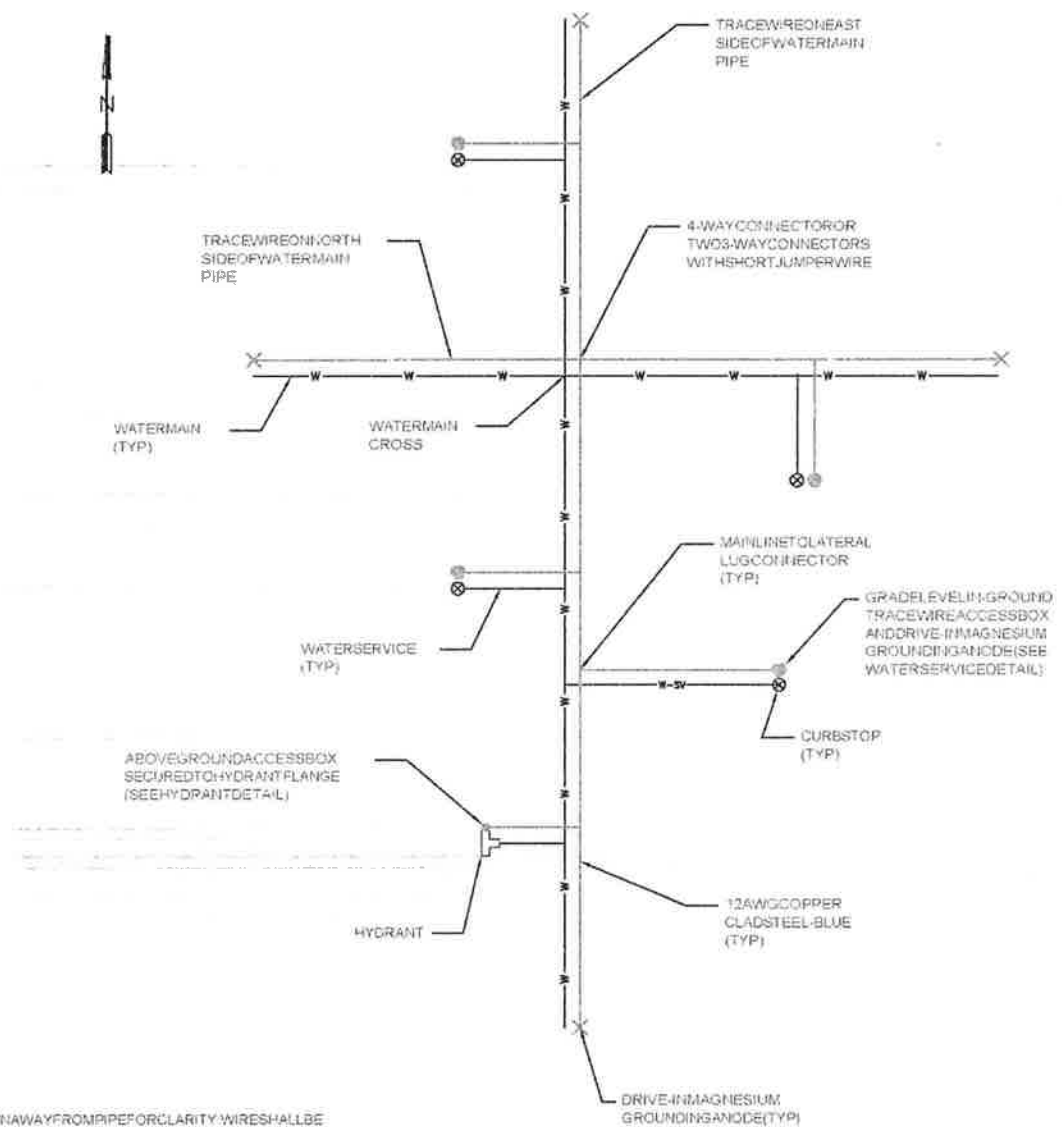
### c. Prohibited Products and Methods

- 1. The following products and methods shall not be allowed or acceptable
  - i.) Uninsulated trace wire
  - ii.) Trace wire insulations other than HDPE
  - iii.) Trace wires not domestically manufactured
  - iv.) Non locking, friction fit, twist on or taped connectors
  - v.) Brass or copper ground rods
  - vi.) Wire connections utilizing taping or spray-on waterproofing
  - vii.) Looped wire or continuous wire installations, that has multiple wires laid side-by-side or in close proximity to one another
  - viii.) Trace wire wrapped around the corresponding utility
  - ix.) Brass fittings with trace wire connection lugs

- x.) Wire terminations within the roadway, i.e. in valve boxes, cleanouts, manholes, etc.
- xi.) Connecting trace wire to existing conductive utilities

d. Testing

1. All new trace wire installations shall be located using typical low frequency (512Hz) line tracing equipment, witnessed by the contractor, engineer and facility owner as applicable, prior to acceptance of ownership.
2. This verification shall be performed upon completion of rough grading and again prior to final acceptance of the project.
3. Continuity testing in lieu of actual line tracing shall not be accepted.

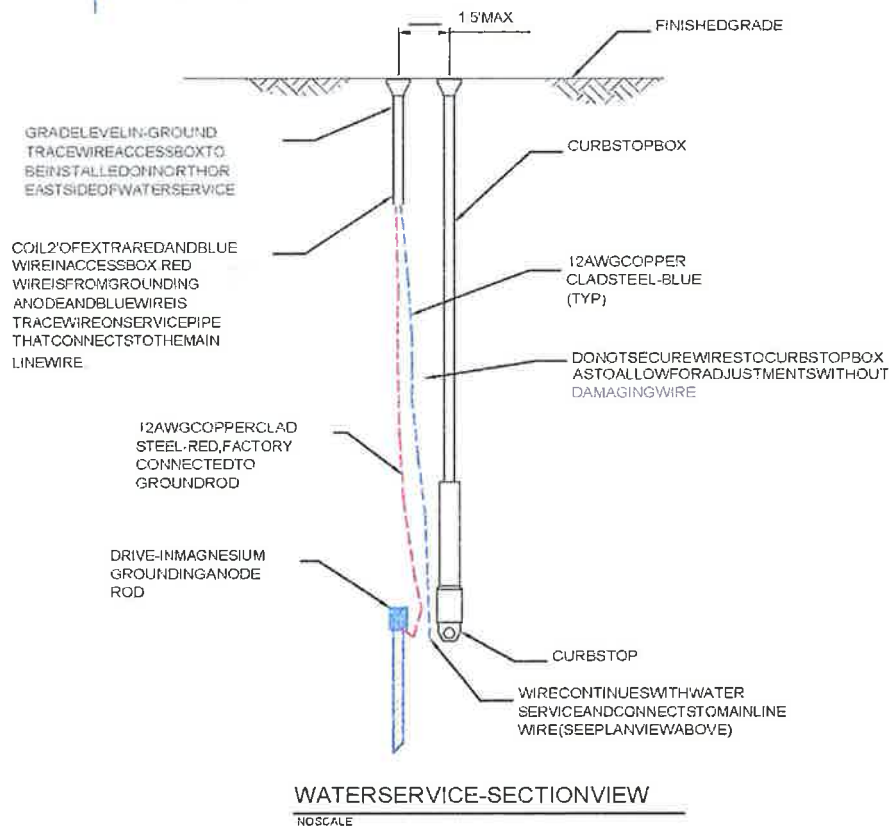
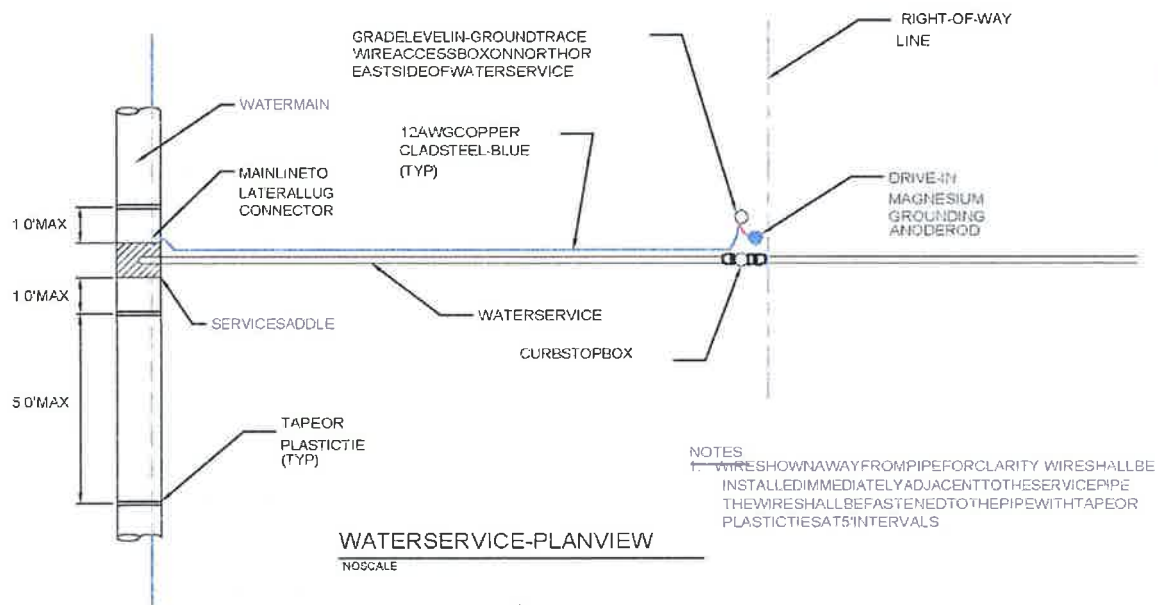


#### NOTES

1. WIRES SHOWN AWAY FROM PIPE FOR CLARITY. WIRES SHALL BE INSTALLED ON THE BOTTOM SIDE OF THE PIPE BELOW THE SPRINGLINE. THE WIRES SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT INTERVALS.

#### TRACEWIRE PLAN (WATER)

NO SCALE







## **RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS, and OTHER GRASSED AREAS**

- 1) **GENERAL:** The work under this item of work shall consist of furnishing all necessary materials, labor, supervision, tools, equipment and incidentals for the restoration of roads, driveways, fences, lawns and other grassed areas so as to provide satisfactory repair to all damage caused by general construction work. It is the intent of these Specifications to restore all such features to the general conditions that existed prior to construction activity insofar as practical. It is not the intention of this Specification that trees, which must be cut and removed, be restored. The Contractor is expected to be familiar with the overall area and be satisfied as to the materials required and level of effort needed to accomplish such restoration in accordance with this Specification.
- 2) **APPLICABLE PUBLICATIONS:** The following publications form a part of this specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work:
  - a) AMERICAN ASSOCIATION of STATE HIGHWAY and TRANSPORTATION OFFICIALS (AASHTO):
    - i) T 99 The Moisture Density Relations of Soils Using a 5.5lb. (2.5 kg) Rammer and a 12-inch (305 mm) Drop
    - ii) T 167 Compressive Strength of Bituminous Mixture
    - iii) T 191 Density of Soil In-Place by the Sand-Cone Method
    - iv) T 230 Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures
  - b) AMERICAN SOCIETY for TESTING and MATERIALS (ASTM)
    - i) D 2922 Density of Soil and Soil Aggregate in Place by the Nuclear Method (shallow depths)
  - c) MISSISSIPPI DEPARTMENT of TRANSPORTATION (MDOT)
    - i) Standard Specifications for Road and Bridge Construction, 2004 Edition
    - ii) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)
- 3) **SUBMITTALS:** Mix Designs: Design mix will be provided by Contractor and approved by Engineer prior to production of asphalt.
- 4) **MATERIALS**
  - a) 4.1 Subbase and Base Courses: Subbase and base courses under paved areas shall be as specified in MSHD Specification, Section 300.
  - b) 4.2 Prime Coat: Prime coat shall consist of Grade MC-30 or Grade MS-70 in accordance with the applicable requirements of MDOT Specification Section 408.
  - c) Bituminous Pavement: Bituminous Pavement for roadway and parking areas, wearing and

binder courses shall consist of a mix in accordance with MDOT Specifications Section 403.

d) Materials shall conform to the following subsection of MDOT, Specifications Sections 702 and 703.

i) Bituminous Materials (AC-20) 702.01

ii) Aggregate

iii) BC-1 Binder Course

iv) SC-1 for Surface Course

v) Filler 703.14

vi) Topsoil: Topsoil shall be in accordance with Technical Specifications - SEEDING and SODDING.

vii) Seeding and Sodding: Seeding and sodding operations shall be in accordance with Technical Specifications - "SEEDING and SODDING."

## 5) CONSTRUCTION

### a) Maintenance of Traffic

i) Prior to limiting or restricting traffic on any street or road, the Contractor shall obtain permission from the City of Hattiesburg. Through or local traffic shall at all times be accommodated by the use of temporary approaches, crossings or detours (if allowed by the City of Hattiesburg). Satisfactory (to the Property Owner) ingress and egress to any public or private property shall be properly maintained. Proper barricades, signs and detour signs shall be provided by the Contractor to adequately warn motorists of obstructions ahead. Lighted (flashing) barricades shall be used at night.

ii) Flagmen shall be provided to direct traffic around equipment and for one way movement of traffic around equipment and for one way movement of vehicles. The Contractor may have to stop construction and restore full traffic during certain rush hours.

iii) The Contractor shall at all times (unless otherwise permitted in writing by the City of Hattiesburg) maintain open one lane to traffic during construction operations and restore roadways to two-way traffic during non-construction hours.

### b) Repair of Asphalt; Concrete Streets; Driveways; Parking Lots

#### i) Removal and Earthwork:

(1) The existing asphalt pavement shall be uniformly saw cut on straight lines and the material shall be removed. Other methods of cutting the existing asphalt surface which will result in a uniform straightedge similar to a sawed cut may be acceptable. Upon completion of the pipe laying, select backfill shall be placed in the excavation in maximum 8-inch lifts and compacted to at least 90% of maximum laboratory density to within one foot of the top subgrade and to 95% of maximum laboratory density in the upper one foot of the subgrade.

(2) Maximum density of typical select backfill material shall be determined in accordance

with AASHTO T 191 or ASTM D 2922. Portable mechanical tampers or vibratory compactors shall be used in the trenches. Rollers may be used at street level. Existing base and asphalt surfaces which become undermined during construction shall be removed until firm undisturbed subgrade is reached.

c) Asphaltic Base: Asphaltic base shall be constructed in accordance with MSHD Specification, Section 300.

- i) Prime Coat: Prime coat shall be applied to exposed existing base material prior to overlay with asphaltic base course in accordance with MSHD Specification, Section 408.
- ii) Tack Coat: Tack coat shall be applied to existing or new asphaltic wearing course and asphaltic base, or concrete which is to require asphalt wearing course.
- iii) Asphalt Wearing Course: Placement and compaction of the bituminous pavement shall be in accordance with MSHD Specification Section 403.03.
- iv) Utilities: All utility covers excavated during removal of streets, driveways, parking lots shall be restored to finished grade.

d) Driveways and Sidewalks:

- i) Driveways and sidewalks shall be repaired in similar manner to the original construction. Asphalt drives shall be saw cut where required and repaired in accordance with Paragraph 6(b) of this Specification. Concrete drives shall be saw cut or removed to the next joint. The minimum thickness for concrete driveway repair is 6 inches and for sidewalks is four (4) inches.
- ii) Concrete surfaces shall be properly tooled and receive a broom finish. Installation (if required) of new driveway drainage culvert shall be made only at the direction of the Engineer. The Contractor shall take all reasonable precautions to allow for reuse of existing drainage culverts.

e) Repair to Gravel Roads: Gravel roads shall be backfilled and compacted in accordance with Paragraph 6(b) of this Specification. The final surface shall consist of 12-inch in-place compacted clay gravel. Compaction shall be to 100% of maximum laboratory density in accordance with AASHTOT 99.

f) Repair to Lawns:

- i) General: The Contractor shall exercise extreme care to minimize damage to improved lawns. Trees and shrubs within the limits of work shall be removed only for essential construction requirements. Any shrubs, which are removed or damaged, shall be replaced by satisfactory (to the Property Owner) planting by the contractor. Any grass seed areas, roads, streets, driveways, culverts, fences, water lines, metal boxes or other items (excluding trees unavoidably cut) which are damaged by the Contractor, shall be satisfactorily restored by Contractor. Acceptance of improved lawn repairs shall be based on the firm establishment of live stand of grasses and live growth of any replanted and acceptable shrubs. The Contractor shall water and fertilize such areas until healthy growth of grass (and shrubs, if applicable) are attained
- ii) Grading: The surface areas shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse

effects to adjoining properties.

- iii) Topsoil: The Contractor shall strip topsoil and sod and stockpile for later use. Upon completion of trenching over the area. Additional topsoil shall be furnished if required (at no additional cost) to provide a uniform thickness of 3 inches. Lime at a rate of 1 - 1/2 tons per acre and fertilizer (13-13-13) at a rate of 800 pounds per acre shall be applied as needed to further establish grass growth.
- iv) Grassing: Grass seed, sprigs, or sod similar to the existing lawn grasses shall be planted in accordance with the supplier's recommendations. Winter cover grasses such as rye grass shall be applied (in addition to planting the permanent grasses) if seeding, sprigging, or sodding is done at a time of year when the permanent grasses will not actively grow. The type(s) of permanent grasses shall be the same as the grass(es) in the damaged lawns. If the lawn repairs are accomplished between September 1 and March 1, the Contractor shall continue the restoration work during the next period of March 15 and April 5 and mow the grass and continue the restoration until satisfactory growth of the permanent grass (es) is obtained. Such additional restoration work shall include the 1 - 1/2 tons of lime per acre, application of 13-13-13 fertilizer at a rate of 800 pounds per acre and replanting and watering permanent grass as necessary to obtain satisfactory (to Engineer) growth. No time will be charged against the Contract Time for any such additional restoration work.
- v) Sodding: Sodding shall be in accordance with Technical Specifications - SEEDING and SODDING.

g) Erosion Control:

- i) During all phases of construction, the Contractor shall adequately protect all work from adverse erosion. Soil shall not be allowed to flow off the limits of work area. The Contractor shall employ the use of ditch checks, matting, temporary grass cover, blankets, or other measures to control erosion. The Contractor shall be responsible to correct damage caused by erosion.
- ii) During the construction of this project, all work areas will be strictly monitored. All trench lines will be kept in excellent condition, all streets and drives will receive careful maintenance, keeping potholes and settled areas filled in. Dust control is essential and will also be strictly monitored.

h) General Grassing of Unimproved Areas

- i) General: The Contractor shall seed and establish grass growth in all disturbed areas in unimproved areas (to include pastures and roadsides). Acceptance of the grass cover shall be based upon the firm establishment of a live stand of grass. The contractor shall water such grass if natural rainfall fails to adequately provide moisture. On slope and other areas subject to erosion, grassing shall be accomplished as soon as practical (within 48 hours unless weather is prohibiting) after finish grading operations.
- ii) Grading: The surface area shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse effects to adjoining properties.
- iii) Topsoil: The Contractor shall remove existing topsoil and stockpile for later use. Upon completion of backfilling (to establish contours as before construction), the topsoil shall be uniformly spread back over the area. The Engineer may require additional topsoil be

furnished by the Contractor, if in the opinion of the Engineer, adequate provisions and efforts were not made by the Contractor to stockpile and re-use existing topsoil material.

- iv) Fertilizer and Agricultural Limestone: The Contractor shall uniformly apply 800 lbs. per acre of 13-13-13 fertilizer and also apply two (2) tons per acre of agricultural limestone to the area to be seeded. The fertilizer and limestone shall be tilled into the soil to a depth of four (4) inches.
- v) Seeding: Seed shall be uniformly sown in accordance with Technical Specification - SEEDING and SODDING.
- vi) Sodding: Sod shall be placed in accordance with Technical Specification - SEEDING and SODDING.
- i) Mulch Cover: Erosion prone areas such as steep slopes and highway shoulders shall receive a layer of loose straw mulch or equivalent at the rate of one and one-half (1-1/2) tons per acre. The mulch cover shall be established by the application of emulsified asphalt or by "crimping" parts of the material into the soil.
- j) Miscellaneous Items: Items such as fences, gates, headwalls, paved ditches, and other items shall be replaced or repaired as required for restoration. Should additional fencing material be required, new post and new wire of similar size, type and gauge shall be provided and installed.
- k) General Care: Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees, which do not have to be removed in the opinion of the Engineer, and which receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.

## 6) TESTING

- a) General: All sampling and testing shall be accomplished by the testing laboratory approved by the Owner and employed by the Contractor to perform such services. Results shall be immediately forwarded to the Engineer by the Contractor.
- b) Earthwork: Earthwork directly involved with road and street repair shall be tested as follows:
  - i) Moisture Density Relationship (Standard Proctors): Two tests of sampled native material shall be required.
  - ii) Tests shall be in accordance with AASHTO T 99.
  - iii) Field Density: A minimum of two and a maximum of four field density tests shall be required. Density tests shall be in accordance with AASHTO T 191 or ASTM D 2922
  - iv) Topsoil: Two pH tests and two organic content tests (wet combustion method) will be required.

## **SEEDING and SODDING**

- 1) **DESCRIPTION:** This item consists of furnishing all labor, supervision, materials, tools, incidentals and equipment and performing all work for topsoiling, tilling, fertilizing, seeding, watering, and otherwise establishing, protecting and maintaining seeded and sodded areas as required by the Contract Drawings and these specifications, and including repair, refertilizing and reseeding as required until final inspection and acceptance of the project.
- 2) **SUBMITTALS:** Certificates for fertilizer, limestone, seed.
- 3) **MATERIALS**
  - a) **Topsoil:** Topsoil shall be the surface layer of soil that is stockpiled by the Contractor during stripping and/or excavation on the site. The topsoil shall be free of subsoil, clay, lumps, stones, brush or seed. Topsoil shall have a pH value of not less than 4.5 or more than 8.0.
  - b) **Lime:** Lime shall be ground limestone containing not less than 80% of total carbonates and shall be ground to such fineness that 80% will pass through a No. 10 mesh sieve and 40% will pass through a No. 40 mesh sieve.
  - c) **Fertilizer:** Fertilizer shall be water soluble commercial carriers of available plant food elements or combinations thereof, as stated herein and shall conform to the applicable state fertilizer laws. They shall be uniform in composition, dry, and free flowing materials in condition for application by suitable equipment. The fertilizer shall be delivered in standard bags or other convenient standard containers, each fully labeled with manufacturer's guaranteed analysis. Any fertilizer shall contain not less than the percentages by weight of the ingredients set out as follows: (1) Nitrogen, 13% (2) Phosphorous P O, 13%, (3) Potash K C, 13%. Invoices for fertilizer will show the kind and have analysis furnished.
  - d) **Seed:** Seeds with a minimum pure live seed content of 90% shall be used. They shall be of the best grade and of known vitality, purity, and germination and shall be delivered in containers bearing seed tags as required by law showing percentages of germination content and purity of seed as well as percentages of weed seed content.
    - i) All seeds shall be free of wild onion, Canadian thistle, Johnson grass, crab grass or other seeds of noxious weeds. All seeds shall be furnished in standard containers, or as acceptable to the Engineer. Seed which has become wet, moldy or otherwise damaged in transit or storage will not be acceptable.

<b>Purity, Germination, and Planting Schedule</b>			
<b>Spring and Summer Seeding (March 1 to September 1)</b>			
<b>Name</b>	<b>Percent Purity</b>	<b>Percent Germination</b>	<b>Mix (dry wt. lbs.) per Acre</b>
Hulled Bermuda	95	90	20
Pensacola Bahia	95	90	30
<b>TOTAL</b>			<b>50</b>
<b>Fall and Winter Seeding (September 1 to March 1)</b>			
<b>Name</b>	<b>Percent Purity</b>	<b>Percent Germination</b>	<b>Mix (dry wt. lbs.) per Acre</b>
Unhulled Bermuda	95	90	20
Pensacola Bahia	95	90	30

Rye	95	85	15
Crimson Clover	95	85	8
TOTAL			73

- ii) Seeding in Existing Lawns: Grass seeds for existing lawns shall be the same as the existing grass.
- e) Leguminous Inoculants: Inoculation media containing live nitrogen-fixing bacteria shall be supplied with all legume seed. The inoculants shall be standard, pure culture of nitrogen-fixing bacteria. Each kind of legume will require cultural bacteria that are adapted to that particular kind of seed. The bacteria shall be supplied in convenient containers seed. The bacteria shall be supplied in convenient containers of a proper size to treat the amount of seed to be planted. The legume seeds shall be treated according to the directions, and before the expiration date for use of the media shown on the container.
- i) Soil for Repairs: for fills or areas to be repaired, soil shall be topsoil of a least equal quality to that which exists in areas adjacent to the area to be repaired.
- f) Water: Water shall be free from oil, acid, alkali, salt, and other substances harmful to growth of grass, and shall be from a source accepted prior to use.
- g) Solid Sod: Bermuda or Carpet Grass and shall be native to the locality of the work and shall, when placed be live, fresh, growing grass with at least two and one-half (2-1/2) inches of soil adhering firmly to the roots. The sod shall be reasonably free from obnoxious weeds or other grasses, and shall not contain any matter deleterious to its growth; or which might affect its subsistence or hardness when transplanted. The sod shall be in blocks at least 3"x 8", and free from ragged edges.

#### 4) INSPECTION AND TESTS

- a) Fertilizer and Limestones: Duplicate copies of material invoices shall be furnished to the Engineer. Invoices shall show quantities and grade of fertilizer, quantity of limestone, percentages of calcium carbonate and magnesium carbonate, as applicable, and the percentages of limestone that pas the No. 40 and the No. 10 mesh sieves. Samples of each lot of fertilizer and limestone shall be furnished for testing. upon completion of project a final check of total quantities of fertilizer and limestone used will be made against total area treated, and if minimum rates of application have not been met, additional quantities of these materials to make up minimum application specified shall be distributed.
- b) Seed: Contractor shall furnish to the Engineer duplicate signed copies of statement(s) from vendor(s), certifying that each container of seed delivered is labeled in accordance with Federal Seed Act and is at least equal to requirements specified therein. This certification shall be obtained from vendor and shall be furnished before application.

#### 5) PREPARATION of GROUND SURFACE

- a) General: Equipment, in good operating condition, shall be used for the proper preparation of the ground and for handling and placing all materials. Equipment shall be acceptable before work is started.
- b) Topsoiling: Topsoil shall be obtained from job site stockpiles formed during stripping and/or excavation operations and shall be free from subsoil, clay lumps, stones, brush, grasses or weeds, excess acids or alkali, or any other material to subsequent, smooth, grading, planting,



and maintenance operations.

- c) Grading: Previously established grades shall be maintained on the areas to be treated in a true and even condition; necessary repairs shall be made to previously graded areas by means of graders or other approved equipment.
- d) Tillage: After the areas required to be treated have been brought to the grades shown, the soil shall be tilled to a depth of at least 4 inches by plowing, disking, harrowing, or other acceptable operations until the condition of the soil is acceptable. The work shall be performed only during period when beneficial results are likely to be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. Undulations or irregularities in the surface shall be leveled before the next specified operation.

## 6) APPLICATION of FERTILIZER and LIMESTONE

- a) Preplanting fertilization of areas to be seeded: Fertilizer shall be distributed uniformly at a rate of 800 pounds per acre over areas to be seeded and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of fertilizer may be part of the operation specified in Section 5.4: TILLAGE of these specifications.
- b) Liming: Immediately following or simultaneously with incorporation of fertilizer, limestone shall be distributed uniformly at a rate of 4000 pounds per acre, and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of limestone along with fertilizer may be part of the operation specified in Section 5.4: TILLAGE of these specifications.
- c) Leveling: Surface irregularities resulting from tillage, fertilizing, liming, or other operations shall be leveled before seeding.
- d) Postplanting fertilization: From 40 to 60 days after seeding, ammonium nitrate or its nitrogen equivalent shall be applied uniformly at a rate of 225 pounds per acre over areas seeded. Fertilizer shall be applied when grass blades are dry to minimize burning. The planted area shall be watered to thoroughly moisten the upper 6 inches of the soil surface after the fertilizer is applied.

## 7) PLANTING SEED

- a) General: A satisfactory method of sowing shall be employed; using approved mechanical power-drawn drills or seeders, or other approved methods. When drills are used, markers or other means shall be provided to insure that the successive seeded strips will overlap or be separated by a space no greater than 6 inches. When delays in operations extend the work beyond the most favorable planting season for species designated or when conditions are such by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, work shall be halted as directed and resumed only when conditions are favorable or when approved alternate or corrective measure and procedures have been effected. If inspection during or after seeding operations indicates that strips wider than 6 inches have been left unplanted or other areas skipped, additional seed shall be sown.
- b) Broadcast Seeding: Seeding shall be broadcast either by hand or with acceptable seeding equipment, in combination with fertilizer, or with other acceptable sowing equipment. Seed shall be distributed uniformly over designated areas. Half of the seed shall be sown with sower moving at right angles to first sowing. Seed shall be covered to an average depth of 1/4 inches by brush harrow, spiketooth harrow, chain harrow, cultipacker, hand rake with wood tines, or other approved device. Seed shall not be broadcast during windy weather.

- c) Drill Seeding: Drill seeding shall be accomplished with approved equipment with drills set not more than 6 inches apart. Seed shall be sown uniformly over designated areas to average depth of 1/4 inch.
  - d) Sodding: All solid sod shall be procured areas where the soil is fertile and contains a high percentage of loamy topsoil, and from areas that have been grazed or mowed sufficiently to form a dense turf.
  - e) Mechanical devices, such as sod cutter, may be used for cutting the sod into strips or blocks. Care shall be exercised at all times to retain the native soil on the roots of the sod during the process of excavating, hauling and planting.
  - f) The solid sod blocks shall be transplanted within 24 hours from the time of cutting, unless they are stacked at their destination in a manner satisfactory to the Engineer. All solid sod in stacks shall be kept moist and protected from exposure to the air and sun, and from freezing. In no event shall more than two (2) days elapse between the cutting and planting of the solid sod.
  - g) Solid sod shall be planted during the period between March 1st and December 15th, unless written permission is given by the Engineer to extend the planting season. The solid sod shall be placed on the prepared surface with the edges in close contact. All cracks between blocks of solid sod shall be closed with small pieces of fresh sod and all cracks too small for sod shall be filled by a light dressing of topsoil. The entire sodded area shall then be compacted and watered to the satisfaction of the Engineer. Rollers, hand tamps or other approved equipment may be used for compacting.
  - h) Surfaces of solid sodding which, in the opinion of the Engineer, may slide due to the height and slope of the surface or nature of the soil, shall, upon direction of the Engineer, be "pegged" with wooden pegs driven through the sod blocks into firm earth, sufficiently close to hold the sod in place.
- 8) **MAINTENANCE**: Seeded areas shall be maintained until all work or designated portions thereof have been completed and accepted. Tall grass and weeds that tend to impede the desired grass species shall be mowed, and any damage resulting from these operations shall be repaired at the Contractor's expense.
- 9) **ESTABLISHMENT of GROWTH**
- a) General: The Contractor shall be responsible for proper care of seeded areas while grass is becoming established for three (3) months after completion of treatment on the entire project, unless desired cover is established in a shorter period of time and the Owner shortens responsibility period. The Contractor shall be responsible for providing a satisfactory stand of grass. A satisfactory stand of grass is determined as a cover of living grass in which gaps larger than 12 inches square do not occur as determined by an acceptance inspection made at the end of the maintenance period. Maintenance work shall be performed at the Contractor's expense.
  - b) Mowing: Seeded and sodded areas shall be mowed with acceptable mowing equipment to a height of about 4 inches when average height of grass becomes about 8 inches. When amount of cut grass is heavy, grass shall be removed to prevent destruction of underlying turf. If weeds or other undesirable vegetation threatens to impede the growth of planted species, such vegetation shall be mowed, or in case of excessive growth, shall be uprooted, raked and removed from area.
  - c) Refertilizing: The Contractor will determine areas needing refertilization at least 15 days before

application is required. Fertilization shall be distributed on designated area during periods when grass is dry. 13-13-13 grade fertilizer shall be applied uniformly at a rate of 800 pounds per acre. Fertilizer conforming to physical condition, packaging and marking as specified hereinbefore shall be provided.

- d) **Reseeding:** The Contractor will determine areas requiring reseeding at least 15 days before period specified for reseeding. Seed specified hereinbefore shall be drilled at rates hereinbefore specified, in a manner that will cause minimum disturbance to existing stand of grass, and at an angle of not less than 15 degrees from direction of previously seeded rows.

## FIRE HYDRANT

- 1) **GENERAL:** Fire hydrants shall comply in all respects with AWWA Standard C-502, latest revision. Fire hydrants shall be of the compression type, with the main valve opening against the pressure and closing with the pressure. The main valve opening shall be 5 1/4" in diameter. Fire Hydrant shall be of a dry barrel, dry top design. The nozzle section shall consist of two (2) hose nozzles and one (1) pumper nozzle or other as specified.
- 2) **RATING:** Fire hydrants shall be rated at 250 psi water working pressure, tested at 500 pounds hydrostatic for structural soundness in the following manner: 500 pound hydrostatic test supplied from the inlet side, first with the main valve closed for the testing of the valve seat; second, with the main valve open for testing of the drain valves and the hydrant barrel. Testing to be complete in accordance with AWWA C-502 and ULFM requirements.
- 3) **END CONFIGURATION:** Hydrants shall be connected to the main by a 6" fusion bonded, epoxy coated mechanical joint shoe. Mechanical joint shoes shall be fitted with strapping lugs.
- 4) **DESIGN**
  - a) The main valve seat of the hydrant shall be made of rubber and be supported by a one-piece bronze top plate / drain valve mechanism. Drain valves shall be faced with rubber. The bottom stem threads of the main valve rod shall be fitted with an epoxy coated, cast iron bottom plate, sealing lower rod threads from the water.
  - b) Changes in size or shape of the waterway (hydrant nozzles) shall be accomplished by means of easy curves. Exclusive of the main valve opening, the net area of the waterway of the barrel and the foot piece at the smallest part shall not be less than 120% of that of the net opening of the main valve.
  - c) Hose and pumper nozzles shall be threaded and screwed into the nozzle section and then mechanically locked to prevent turning.
  - d) Hose and pumper caps shall be chained to the hydrant
  - e) The hydrant shall be so designed that when it is in place, no excavation will be required to remove the main valve and movable parts of the drain valve. Further, the hydrant shall be of the type that can be extended without excavating.
  - f) Hydrants shall be so designed that, in the event of accident, or breaking of the hydrant above or near grade level; the main valve will remain closed.
  - g) The main valve rod shall be made in two parts and fitted with breakable coupling at the ground line flange.
  - h) The ground line connection between nozzle section and the barrel shall incorporate the use of a traffic flange. This connection shall be so designed that the nozzle section can be rotated in any increment of 360°. The ground line connection between the barrel and nozzle sections shall have a rubber o-ring gasket to provide a seal.
  - i) The operating threads of the hydrant shall be so designed as to avoid the working of any iron or steel parts against either iron or steel. The operating stem and operating nut threads shall be square or acme type.
  - j) The operating thread shall be lubricated at factory with food grade grease. Access shall be provided

to field lubricate the operating mechanism.

- k) The operating thread shall be sealed from water at all times when the valve is either in the opened or closed position. The operating rod shall be bronze sheathed where it passes through the double "O" ring seal in the bonnet.
- l) The bonnet shall be weather proof and utilize a weather shield integral with the external wrench operating nut.
- m) The operating nut shall be made of bronze with a self-lubricating design.
- n) Hydrants shall be of the dry barrel type and the hydrant shoe shall have two positive acting non-corrosive drain valves that shall drain the hydrant completely by opening when the main valve is closed, and close tightly in accordance with AWWA C-502 requirements when main valve is open.
- o) The main valve assembly shall be seated in the hydrant with a bronze-to-bronze interface to facilitate removal of the main valve, should maintenance be required. The nozzle section shall consist of two-2 1/2" hose nozzles to the specified thread designation (NST) and one pumper nozzle 4 1/2" in diameter to the specified thread designation (NST), or other combination of nozzle outlets, including independent hose gate valves, as shown on the plans.
- p) Two O-ring seals shall be utilized where the main hydrant rod passes through the 1 piece bonnet.
- q) Hydrant standpipe shall be ductile iron and single piece for all bury depths.
- r) All like parts of hydrants of the same size and model produced by the same manufacturer shall be interchangeable.
- s) Hydrant shall open by turning to the left. The direction of opening is to be permanently marked on the hydrant bonnet.
- t) Threads on hose and steamer nozzles shall be National Standard unless otherwise specified.
- u) Size and shape of operating nuts cap nuts shall conform to National Standard unless otherwise specified.
- v) Bury shall be a minimum of three (3) feet measuring depth from grade line to bottom of trench or connecting pipe.
- w) Auxiliary shut-off (isolation) gate valves, when required, shall be of the same manufacture as the hydrant.

## 5) **COATING**

- a) The inside of all hydrants shall be coated in accordance with AWWA standards except for bronze and threaded machined surfaces. Exterior on hydrant nozzle section shall be painted Fire Hydrant Red (or other as shown on the plans).
- b) Hydrant shoes shall have an interior and exterior thermosetting epoxy coating of 5 to 6 mils meeting AWWA C550.

## 6) **MARKINGS:** Hydrant shall be marked with the name of the manufacturer, size of valve opening, direction of opening and the year of manufacture all in accordance with the AWWA C-502.

**SOURCE:** Hydrants shall be M&H Model 129, Mueller Super Centurion 250, or the American Flow Control.



**SPECIFICATIONS AND CONTRACT DOCUMENTS**

**FOR**

**COMPREHENSIVE WATER IMPROVEMENTS PHASE II  
PALMERS CROSSING AND IRENE CHAPEL**

**FOR THE**

**CITY OF HATTIESBURG  
FORREST COUNTY  
MISSISSIPPI**

**JANUARY 2017**



**PREPARED BY:**

**SHOWS, DEARMAN & WAITS, INC.  
CONSULTING ENGINEERS  
301 SECOND AVENUE  
HATTIESBURG, MISSISSIPPI  
(601) 544-1821**



**ADDENDUM No. 6**  
**to the**  
**CONTRACT DOCUMENTS and SPECIFICATIONS**  
**for the**  
**COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL**  
**AREAS**  
**CITY of HATTIESBURG**

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

- CHANGE No. 1 -** The Proposal for the project as contained in the contract documents shall be voided. The attached Proposal-Addendum No. 6 shall be inserted and used for preparation of bids for the project.
- CHANGE No. 2 -** Plan sheets 10, 11, 15, 20, 23, 24, 25, and 26 should be replaced with the attached plan sheets.
- CHANGE No. 3 -** HDPE Pipe shall be supplied via Ductile Iron Pipe Size (DIPS).
- CHANGE No. 4 -** Attached is a preliminarily approved permit from Canadian National Railway Company (P-10911). The City of Hattiesburg will pay the charge noted in the permit of \$4,800.00. The contractor shall be responsible for payment of all insurance, bonding, flagging, etc. as noted in the permit.
- CHANGE No. 5 -** Attached are preliminarily approved permits from Kansas City Southern Railway Company (17-3248, 17-3249 and 17-3250). The City of Hattiesburg will pay the any permit charges required for the permit. The contractor shall be responsible for payment of all insurance, bonding, flagging, etc. as noted in the permit or attached to this addendum. A single policy will be required for insurance and bonding which will cover all three crossing permits.
- CHANGE No. 6 -** It is the responsibility of the contractor to coordinate flagging services with the appropriate railroad officials. The contractor shall be responsible for all fees associated with flagging services.
- CHANGE No. 7 -** Item No. 31 – “6” Fire Suppression System Connection” shall be used as necessary on the project as required to connect an existing fire suppression system.
- CHANGE No. 8 -** Specifications for service water line construction required as part of this contract shall be as follows: Service pipe shall be ¾” Polyethylene Plastic tubing meeting the following specifications, 200 PSI and complying with AWWA standards when tested by methods ASTM 1599, copper tube size (O.D.) flarable for use with standard heavy duty waterworks brass flare fittings. Tubing shall comply with the standards and bear the seal of the National Sanitary Foundation.

**CHANGE No. 9 -** It shall be the contractor's responsibility to adequately address concerns of utility coordination prior to construction. This shall include but not limited to location of underground utilities. The contractor shall be required to locate all existing water lines.

**CHANGE No. 10 -** Restrained pipe shall not be required on the project.

**CHANGE No. 11 -** Post Indicator Valves shall not be part of the project.

**CHANGE No. 12 -** Water meters shall be a Badger "Radio Read" and all fittings shall be Ford brand. Contractor shall provide all materials and labor to make a fully functioning water meter.

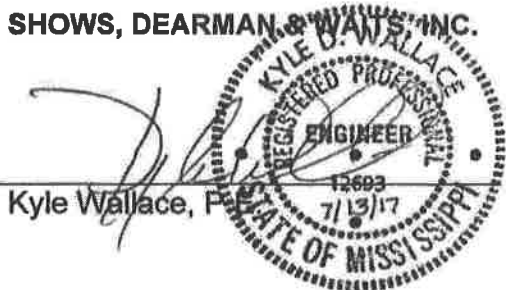
**CHANGE No. 13 -** Corrosion protection will not be required on the project.

**CHANGE No. 14 -** Item No. 37 - "Abandonment of Existing Water Lines with Flowable Fill" shall be used as directed by the engineer. Locations shall be generally located within railroad rights of way.

**SHOWS, DEARMAN & WAITS, INC.**

**CITY OF HATTIESBURG**

by:



Kyle Wallace, P.E.

by:

A handwritten signature of Kermas Eaton in black ink.

Kermas Eaton, City Clerk

Dated this 13th day of July, 2017.

**The receipt of this Addendum shall be indicated by signature on the line below.  
A signed copy of the Addendum shall accompany the Bid Proposal.**

**Contractor:** L.B. Developers, Inc.

**Signature:** [Signature]

**Title:** P.M.

BY  CITY CLERK  
DEPUTY CLERK

## ADDENDUM NO. 6

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 180 calendar days thereafter. The undersigned further agrees that the unit bid price quoted includes all items of work required or necessary for the accomplishment of the projected work. BIDDERS agree to perform all the work described in the CONTRACT DOCUMENTS for the following unit bid prices:

Proposal					
Comprehensive Water Improvements - Phase II					
Palmers Crossing and Irene Chapel Areas - City of Hattiesburg					
Item	Description	Unit	Quantity	Unit Price	Extension
Water Pipe Items					
1	4" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	260	25.44	6614.40
2	6" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	280	23.74	6647.20
3	8" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	590	23.77	13994.80
4	12" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	27,000	31.08	839160.00
5	12" Class 350 Ductile Iron Water Pipe (Bored - No Casing)	Lin. Ft.	1,090	66.98	73008.20
6	16" 200 PSI, DR9, HDPE (Open Cut) (Incl. adapter fittings)	Lin. Ft.	780	111.21	86790.60
7	16" 200 PSI, DR9, HDPE (Direction Bore) (Incl. adapter fittings)	Lin. Ft.	460	133.85	61571.00
Casing Items					
8	18" Steel Casing, 0.25" WT (Open Cut)	Lin. Ft.	20	112.00	2240.00
9	14" Steel Casing, 0.25" WT (Bored)	Lin. Ft.	40	94.99	3799.60
10	18" Steel Casing, 0.25" WT (Bored)	Lin. Ft.	610	112.44	68588.40
11	20" Steel Casing, 0.375" WT (Bored - Railroad)	Lin. Ft.	740	295.72	218832.80

	Connection Items						
12	Connection: Proposed 12" to Existing 12" (Straight Connection w/ fittings)	Each	2	1509.99	3019.98		
13	Connection: Proposed 12" to Existing 12" (Hot Tap w/ Valve Assembly & other fittings)	Each	3	6603.33	19809.99		
14	Connection: Proposed 12" to Proposed 12" (Tee & other fittings)	Each	5	1741.31	8706.55		
15	Connection: Proposed 12" to Proposed 12" & 8" (Tee & other fittings)	Each	1	2191.77	2191.77		
16	Connection: Proposed 12" to Proposed 8" (Tee & other fittings)	Each	2	1723.93	3447.86		
17	Connection: Proposed 12" to Proposed 12" & Existing 8" & 6" (Tees & other fittings)	Each	1	3061.78	3061.78		
18	Connection: Proposed 12" to Proposed 12" & Existing 4" (Tee & other fittings)	Each	2	2263.80	4527.60		
19	Connection: Proposed 12" to Existing 6" (Tee & other fittings)	Each	10	1878.23	18782.30		
20	Connection: Proposed 12" to Existing 6" & 4" (Tees & other fittings)	Each	1	2813.19	2813.19		
21	Connection: Proposed 12" to Existing 6" & 4" (Cross & other fittings)	Each	1	3093.80	3093.80		
22	Connection: Proposed 12" to Existing 4" (Tee & other fittings)	Each	12	2025.74	24308.88		
23	Connection: Proposed 8" to Existing 12" (Hot Tap w/ Valve Assembly & other fittings)	Each	1	3660.35	3660.35		
24	Connection: Proposed 8" to Existing 6" (Tee & other fittings)	Each	1	1702.56	1702.56		
25	Connection: Proposed 8" to Existing 6" & 4" (Tees & other fittings)	Each	1	2657.87	2657.87		
	Valve Items						
26	4" Gate Valve	Each	9	684.95	6164.55		
27	6" Gate Valve	Each	14	840.19	11762.66		
28	8" Gate Valve	Each	4	1154.21	4616.84		
29	12" Gate Valve	Each	66	2036.87	134433.42		

	Fire Protection Items				
30	3 Way Fire Hydrant w/ Appurtenances (Incl. Tee, Valve, Hydrant, Brass Tag, Pipe, & other fittings)	Each	42	3708.92	1557744.64 A.A.
31	6" Fire Suppression System Connection (Incl. Tee, Valve, Pipe, Disconnection of Existing System, Connection to Existing Fire System, etc.)	Each	1	4146.85	4146.85
	<b>Service Items</b>				
32	Residential Service Tap (All Sizes) (Incl: Open Cut Service Tubing, Tapping Saddle, Corp Stop, etc)	Each	99	445.19	44073.81
33	Commercial Service Tap (All Sizes) (Incl: Open Cut Service Tubing, Tapping Saddle, Corp Stop, etc)	Each	17	1085.64	18455.88
34	Service Tubing (Bored) (All Sizes)	LF	1,585	4.13	6546.05
35	Residential Meter (Incl: Meter, Meter Box, City Fees, etc)	Each	15	550.23	8253.45
	<b>Removal Items</b>				
36	Removal of Fire Hydrant and Appurtenances	Each	24	409.36	9824.64
37	Abandonment of Exist. Water Lines with flowable Fill	LF	760	7.75	5890.00
38	Remove and Reset Existing Storm Sewer Culverts (All Sizes)	Lump Sum	1	4678.36	4678.36
	<b>Miscellaneous Construction Items</b>				
39	Select Fill Material (Class 9, Group C), LVM for Gravel Driveway Repair	CY	35	21.05	736.75
40	Asphalt Pavement Repair (All Depths)	TON	460	181.29	83393.40
41	Concrete Pavement Repair (All Depths)	SY	338	116.96	39532.48
42	Concrete Curb and Gutter Repair (Match Existing in kind)	LF	25	58.48	1462.00
43	Crushed Aggregate for Road Repair (Size 825)	Ton	151	58.48	8830.48
44	Temporary Erosion Control	Lump Sum	1	6432.75	6432.75

45	Grassing	Lump Sum	1	4678.36	4678.36
46	Maintenance of Traffic	Lump Sum	1	5847.95	5847.95
47	Mobilization	Lump Sum	1	5847.95	5847.95
<b>Project Total:</b>				2,054,414.75	

**Note:** All materials and components shall be a product of the U.S.A.



[www.cn.ca](http://www.cn.ca)

**Southern Region**

**CN**  
**Joseph Wojcik**  
**IC Track Design Technician**  
**915 Belle Ave.**  
**Joliet, IL 60432**

**T 815-774-6414**  
**F 815-774-6430**

**May 15, 2017**

**File P-10911**

**City of Hattiesburg**  
**P.O. Box 1898**  
**Hattiesburg, MS 39403-1898**

**RE: 16" HDPE water line in a 20" steel casing**  
**M. P. 92.49**  
**Preparation fee \$750.00 paid**  
**Charge \$4,800.00**

Attached hereto in duplicate is agreement covering the above-described subject matter, which has been prepared pursuant to your request. Please have both copies executed and return to me for my further handling for execution on behalf of the Railroad Company. Acceptance of the agreement is not to be assumed until a fully executed copy has been returned.

Please note that payment of \$4,800.00 is to be made upon execution of the agreement. To avoid delay in our handling, the required remittance should be made with the return of the agreement.

This office shall receive 5 days notice, exclusive of weekends and holidays, before any work is performed in the vicinity of the track. Such notice shall only be accepted from the owner or their duly authorized agent. Once execution of the agreement is complete and you have submitted a completed flagging and cable request form, you must call Maryellen Carmody at 734-783-4533 to set up flagging and signal locate before any work. The Utility must prepay the railroad for all anticipated flagging and cable location costs, which are to be calculated pursuant to the Request for Flagging Services and Cable Location form.

Sincerely,

**Joseph Wojcik**  
**IC Track Design Technician**

**LICENSE FOR UNDERGROUND PIPELINES, CABLES AND CONDUITS**

THIS AGREEMENT made in duplicate this 15th of May, 2017, between ILLINOIS CENTRAL RAILROAD COMPANY, party of the first part, hereinafter called the Railroad, and

File P-10911

City of Hattiesburg  
P.O. 1898  
Hattiesburg, MS. 309403-1898

Party or parties of the second part, hereinafter called the Licensee,

**WITNESSETH:**

1. In consideration of a one time fee of \$4,800.00 in hand paid by the Licensee to the Railroad, the receipt whereof is hereby acknowledged and the faithful performance by the Licensee of the covenants herein contained, the Railroad, insofar as it lawfully may, hereby grants to the Licensee license and permission to construct and maintain a 16" HDPE water line in a 20" steel casing (see attachment) (whether one or more pipes, cables or conduits hereinafter referred to as the "pipeline") across, along and underneath the property of the Railroad at M.P. 92.49 in Hattiesburg, MS, said pipeline being more particularly shown upon the exhibits hereto attached and made a part hereof, subject to the following conditions and specifications:
2. The license and permission herein granted to Licensee are subject and subordinate; however, to the rights in Railroad, its successors and assigns, its grantees, lessees and licensees, to construct, reconstruct, operate, use, maintain, repair and renew on, beneath or above the property covered hereby, any structures, improvements or facilities of similar or different character as are now or in the future may be located on, beneath or above said properties.
3. Licensee shall, except in emergencies, give not less than 72 hours written notice to Railroad of the day, hour and location that it proposes to undertake any construction or maintenance work and in the event of an emergency shall notify Railroad as soon as possible.



Licensee shall require each of its contractors and subcontractors to observe and conform to the conditions and requirements specified herein; and for the purposes of the safety, protective and indemnification provisions hereof, such contractors and subcontractors, their agents, servants and employees, and other persons on the Railroad property at the invitation of the Licensee, its contractors or subcontractors, shall be deemed the agents or employees of the Licensee.

4. Licensee shall, at no expense to Railroad, obtain all permits and approvals required to exercise this license and Licensee shall install, maintain and operate its facilities in accordance with all requirements of lawful public authority. Licensee shall be responsible for any taxes, assessments and charges made against the pipeline or other of Licensee's facilities on Railroad's property or the operation of any of them.
5. The pipeline shall be installed at least 10 feet below the tracks of the Railroad, measured from base of rail to top of pipeline or, if no tracks are located on the property, at least 3 feet below natural ground. Said pipeline shall be constructed of such material and in such a manner as will assure the safety of Railroad. Railroad's authorized representative shall have the right, but not the duty, to require certain materials or procedures to be used or to supervise the construction, maintenance, restoration or other work on Railroad's property. If in the opinion of Railroad's authorized representative casing of the pipeline is required at the time of installation or at any time subsequent thereto, Licensee shall promptly arrange for such casing at its own risk and expense.
6. If, in the opinion of the authorized representative of Railroad the work to be done by the Licensee pursuant to this agreement will make necessary or desirable any change in the Railroad's facilities, or those of the Railroad's tenants or licensees, on the Railroad's property, the Railroad shall have the right, but not the duty, to make such changes, the expense thereof to be borne by the Licensee.

Railroad shall have the right, but not the duty, to furnish flagging or other protection or to perform work to support its tracks or otherwise protect its property or facilities at any time, at Licensee's sole risk and expense.

7. Licensee agrees at any time, or from time to time, at its own risk and expense, upon request of the authorized representative of the Railroad, to make such change or changes as may be necessary in the opinion of said representative to accommodate any change or improvements which Railroad may desire to make in or upon its property. In case Licensee shall fail within thirty (30) days after notice from Railroad to make such change or changes, Railroad shall have the right, but not the duty, to make such change or changes, or remove Licensee's facilities from said property at the risk and expense of Licensee.

8. Licensee shall at its expense take such measures as may be necessary and adequate in connection with its property or the property of railroad to protect facilities of Railroad and those of others using Railroad's property from interference by induction, conduction, physical contact or otherwise attributable to the exercise by Licensee of the license granted to it.

In the event Railroad advises Licensee to take any action to protect Railroad, its facilities or facilities on Railroad's property, Licensee shall promptly take the indicated action, including, but not limited to, stopping the operation of the pipeline. If Licensee fails to do so, Railroad shall have the right, but not the duty, to perform on behalf of Licensee at the sole risk and expense of Licensee.

9. In the event Railroad elects to renew, replace, repair or alter any tracks or other facilities or to construct new facilities or to make other use of the property covered by this license, and in connection therewith requires the removal of any facilities placed by Licensee on Railroad's property or should any facilities of Licensee need renewal or repair, Licensee shall, within 30 days of receipt of notice, arrange for such removal, renewal or repair at Licensee's risk and expense. In the event removal is required, the facilities shall be relocated at such location on Railroad's property as is designated by Railroad, provided that Railroad's authorized representative determines that a location is reasonably available. Renewal or repair shall be to such condition as is indicated by Railroad's authorized representative. If Licensee fails to comply with the foregoing, Railroad shall have the right, but not the duty, to remove, renew or repair such facilities at the sole risk and expense of Licensee.
10. Cost and expense for work performed by the Railroad pursuant to this agreement shall consist of the direct cost of labor and material plus Railroad's standard additives in effect at the time the work is performed. All payments required of Licensee under this agreement shall be made promptly upon presentation of a bill.
11. Licensee, as a further consideration and as a condition without which this license would not have been granted, agrees to indemnify and save harmless Railroad, its officers, employees and agents and to assume all risk, responsibility and liability for death of, or injury to, any persons, including, but not limited to, officers, employees, agents, patrons and licensees of the parties hereto, and for loss, damage or injury to any property, including but not limited to, that belonging to the parties hereto (together with all liability for any expense, attorneys' fees and costs incurred or sustained by the Railroad, whether in defense of any such claims, demands, actions and causes of action or in the enforcements of the indemnification rights hereby conferred) arising from, growing out of, or in any manner or degree directly or indirectly caused by, attributable to, or resulting from the grant or exercise of this license or the construction, maintenance, repair,

renewal, alteration, change, relocation, existence, presence, use, operation, or removal of any structure incident thereto, or from any activity conducted on or occurrence originating on the area covered by the license regardless of the negligence of Railroad, its officers, employees and agents. Licensee further agrees to release and indemnify and save harmless Railroad, its officers, employees, agents, patrons or invitees from all liability to Licensee, its officers, employees, agents or patrons, resulting from railroad operations at or near the area in which the license is to be granted whether or not the death, injury or damage resulting therefrom may be due to the negligence of the Railroad, its officers, employees or agents or otherwise. At the election of Railroad, the Licensee, upon receipt of notice to that effect, shall assume or join in the defense of any claim based upon allegations purporting to bring said claim within the coverage of this section.

12. Licensee shall secure, and maintain in place so long as this agreement is in effect, Comprehensive General Liability Insurance (Occurrence Form) in an amount not less than \$5,000,000 per occurrence, with an aggregate of not less than \$10,000,000 per annual period. The policy must name Railroad and its parent company, Canadian National Railway Company, as additional insured's in the following form:

Illinois Central Railroad Company, and its Parent Corporation,  
Canadian National Railway Company  
17641 S Ashland Ave  
Homewood, IL 60430

The policy must not contain any provisions excluding coverage for injury, loss or damage arising out of or resulting from (a) doing business on, near, or adjacent to railroad track or facilities, or (b) surface or subsurface pollution, contamination or seepage, or from handling, treatment, disposal or dumping of waste materials or substances. Before commencing work, Licensee shall deliver to Railroad a certificate of insurance evidencing the foregoing coverage's and true and complete copies of the policies described above. Each policy shall include a waiver by the insurer of any right of subrogation against any recovery by or on behalf of any insured. Each policy shall provide for not less than thirty days prior written notice to Railroad of cancellation of or any material change in that policy.

13. It is expressly understood Railroad does not warrant title to the premises and Licensee accepts the grant of privileges contained herein subject to all lawful outstanding existing liens and superior rights. Licensee agrees it shall not have to make any claim against Railroad for damages on account of any deficiency in title and agrees that in the event of failure or insufficiency of such title the sole remedy of Licensee shall be the right to return of the consideration paid in advance, provided for herein, or a proportionate part thereof in the event of a partial

deficiency or insufficiency of title. Licensee further agrees to indemnify and save harmless the Railroad and to assure all risk, responsibility and liability (including any expenses, attorneys' fees and costs incurred or sustained by Railroad) arising from, growing out of, or in any manner or degree directly or indirectly attributable to or resulting from any deficiency or insufficiency of its title affecting the right of the Railroad to make this grant.

14. This agreement shall continue in force indefinitely from and after the date hereof, subject, however, to the right of either party to terminate this agreement as to the entire pipeline and all of the facilities of Licensee, or any part thereof, at any time or from time to time, as it may require, upon giving the other party ninety (90) days notice in writing of its desire to terminate this agreement, and indicating in said notice the extent of said line and facilities to which such termination shall apply. When this agreement shall be terminated as to the entire line and all of the facilities of Licensee or as to any part thereof, Licensee within thirty (30) days after the expiration of the time stated in said notice, agrees at its own risk and expense to remove said facilities from the property of Railroad, or such portion thereof as Railroad shall require removed, and to restore the railroad premises to a neat and safe condition, and if Licensee shall fail to do so within said time, Railroad shall have the right, but not the duty, to remove and restore the same, at the risk and expense of Licensee. Nothing herein contained shall be construed as conferring any property right on Licensee.
15. In case Railroad shall at any time, or from time to time, require the removal of only a portion of said pipeline, this agreement shall continue in force and be applicable to the portion of portions of said pipeline and other facilities remaining from time to time until said entire pipeline has been removed and the rental shall be adjusted accordingly.
16. Nothing in this agreement shall be construed to place any responsibility on Railroad for the quality of the construction, maintenance or other work performed on behalf of Licensee hereunder or for the condition of any of Licensee's facilities.

Any approval given or supervision exercised by Railroad hereunder, or failure of Railroad to object to any work done, material used or method of construction, reconstruction or maintenance, shall not be construed to relieve Licensee of its obligations under this Agreement.

17. This Agreement shall not be binding on either party hereto until all parties have executed the space provide below.

18. This agreement shall be binding on the successors and assigns of the parties hereto, but no assignment hereof by the Licensee, its successors, legal representatives or assigns, shall be binding upon the Railroad without its written consent in each instance.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed in duplicate, the day and year first above written.

ILLINOIS CENTRAL RAILROAD COMPANY

By:

_____  
Arthur L. Spiros - Senior Manager, Business Development & Real Estate – Southern Region

CITY OF HATTIESBURG

By:

_____  
Name and Title

**INITIAL NOTIFICATION OF INTENT TO CONSTRUCT PIPELINE CROSSING/ENCROACHMENT**  
 Complete this form and return it along with a non-refundable preparation fee of \$750 made out to CN.

DATE:

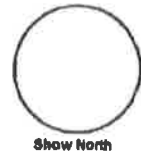
<b>1. Owner/Applicant Information</b>		
Name and Address: <u>City of Hattiesburg P.O. Box 1898 Hattiesburg, MS 39403-1898</u>		
Authorized Representative: <u>Lamar Rutland, P.E.</u> Title <u>City Engineer</u>		
Phone Number: <u>(601) 545-4640</u> Fax Number _____ Email <u>lrutland@hattiesburgms.com</u>		
<b>2. Location Of Pipeline</b>		
Pipeline Location Mile Post: <u>68 92.49</u> plus <u>5.456</u> feet (if parallel) to Mile Post: _____ plus _____ feet		
At or Near <u>Hattiesburg</u> (Name of City, Town, Village)		
<b>3. Commodity to be transmitted in pipe line:</b> <u>Water</u> (steam, air, water, gasoline or other petroleum products, chemical-specify: natural or artificial gas. If sewer, identify as to force or gravity line, sanitary, storm or chemical waste – specify)		
<b>4. Pipe Data</b>		
	<b>CARRIER PIPE</b>	<b>CASING PIPE</b>
A. Inside Diameter:	<u>14.222"</u>	<u>19"</u>
B. Outside Diameter:	<u>16"</u>	<u>20"</u>
C. Wall Thickness:	<u>1.778"</u>	<u>0.375"</u>
D. Pipe Material:	<u>HDPE</u>	<u>Steel</u>
E. Specification/Grade or class:	<u>DR-9</u>	<u>Class 350</u>
F. Min. Yield Point of Material	_____	<u>35 ksi</u>
G. Process of Manufacture	_____	_____
H. Name of Manufacturer	_____	_____
I. Type of Joint	<u>Heat Fusion</u>	<u>Welded</u>
J. Working Pressure	<u>200 psi</u>	<u>350 psi</u>
K. Maximum operating pressure in pipeline:	<u>60</u>	(psi by gauge)
L. Length of Casing pipe:	<u>140</u>	Feet
M. Will casing pipe/uncased carrier pipe be cathodically protected:	<u>N/A</u>	
N. Hydrostatic pressure carrier pipe will be tested with before using	<u>150</u>	(psi)
O. Will casing pipe be vented?	<u>N/A</u>	Size: _____
P. Will casing pipe/uncased carrier pipe have a protective coating?	<u>N/A</u>	Type: _____
Q. Depth of top of casing or uncased carrier pipe below base of rail or top of ground	<u>10.0</u>	feet. (Minimum at closest point)
R. Method of installing casing pipe /uncased carrier pipe	<u>Dry Bore and Jack</u>	(dry bore & jack, directional, tunnel, other – specify)
Attach to this application (3 copies) showing north arrow and a location sketch with crossings measured from the nearest railroad mile post and a profile sketch of actual situations showing relationship of tracks, contour of ground, the buried pipe, etc. Distance from each facility (encroachment) to the centerline of nearest road, crossing, bridge or other Railroad structures, must be clearly indicated. Right of way lines of railroad and labeled Street or highway, if involved, should also be shown.		

# RAILROAD PERMIT

Sheet No.: 1 of 3

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/02/17	BT		



## GENERAL NOTES:

1. RAILROAD REPRESENTATIVE AND FLAGMAN SHALL BE PRESENT DURING ALL CONSTRUCTION CROSSING THE RAILROAD.
2. EXCAVATION SHALL NOT BE PERMITTED INSIDE RAILROAD RIGHT-OF-WAY.
3. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF THE RAILROADS PIPELINE OCCUPANCY SPECIFICATIONS.
4. PIPELINE AND CROSSING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.
5. BLASTING NOT PERMITTED.
6. WHERE THE WATER MAIN IS WITHIN 10 FEET OF A SEWER MAIN HORIZONTALLY, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18" FROM THE TOP OF THE SEWER MAIN, UNLESS OTHERWISE NOTED.
7. WORK FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES. THEREFORE, THE RISK OF A FAILURE OCCURRING DURING THE EXCAVATION REQUIRES THAT EXTREME CAUTION BE EXERCISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING WHAT BRACING, SHORING OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE EXCAVATION, THE PUBLIC THAT MAY BE ABOVE THE EXCAVATION, OR ANY STRUCTURE ADJACENT TO THE EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAWING AND CONSTRUCTING THE FACILITY SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT ITEMS.

## ABBREVIATIONS LEGEND:

BLDG	- BUILDING
BTM	- BOTTOM
CL	- CENTERLINE
CN/IC	- CANADIAN NATIONAL ILLINOIS CENTRAL
CONC	- CONCRETE
DI	- DUCTILE IRON PIPE
EOP	- EDGE OF PAVEMENT
EXIST	- EXISTING
HDPE	- HIGH DENSITY POLYETHYLENE
LF	- LINEAR FEET
PL	- PROPERTY LINE
RCP	- REINFORCED CONCRETE PIPE
REQ'D	- REQUIRED
ROW	- RIGHT OF WAY
RR	- RAILROAD
W/	- WITH
XING	- CROSSING

## LINETYPE & SYMBOLS LEGEND:

---	- CENTERLINE
+++++	- RAILROAD (EXIST)
---	- APPARENT MDOT RIGHT-OF-WAY
—○—	- FENCE (EXIST)
—●—	- OVERHEAD UTILITY LINES (EXIST)
—x—	- POLE GUY WIRE (EXIST)
—P—	- PROPERTY LINE (EXIST)
~~~~~	- TREE LINE (EXIST)
---	- DITCH (EXIST)
—P—	- UTILITY POLE (EXIST)
---W---	- WATER LINE (EXIST)
—M—	- WATER METER (EXIST)
—V—	- WATER VALVE (EXIST)
—V—	- WATER VALVE (REQ'D)
---W---	- WATER LINE (REQ'D)

CANADIAN NATIONAL / ILLINOIS CENTRAL RAILROAD
5,156' SOUTH OF MP #68

RAILROAD PERMIT

Sheet No.: 2 of 3

Permit No.: _____

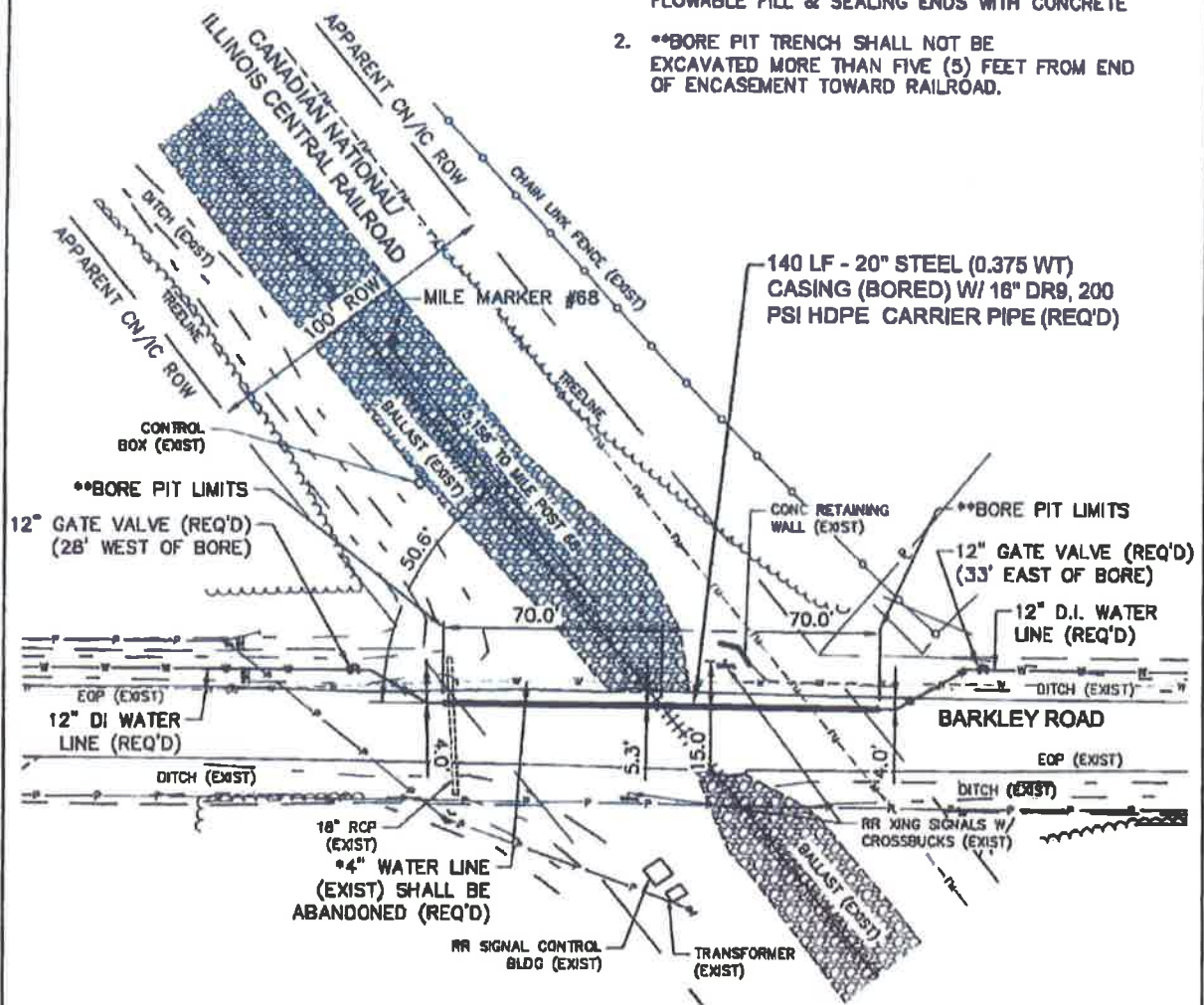
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/02/17	BT		



SCALE: 1" = 50'

NOTES:

1. *140'± OF EXIST 4" WATER LINE (INSIDE RR ROW) SHALL BE ABANDONED IN PLACE, WHICH SHALL INCLUDE PUMPING EXIST WATER LINE WITH FLOWABLE FILL & SEALING ENDS WITH CONCRETE
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



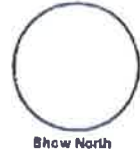
**CANADIAN NATIONAL / ILLINOIS CENTRAL RAILROAD PIPE BORE:
5,156' SOUTH OF MP #68**

RAILROAD PERMIT

Sheet No.: 3 of 3

Permit No.: _____

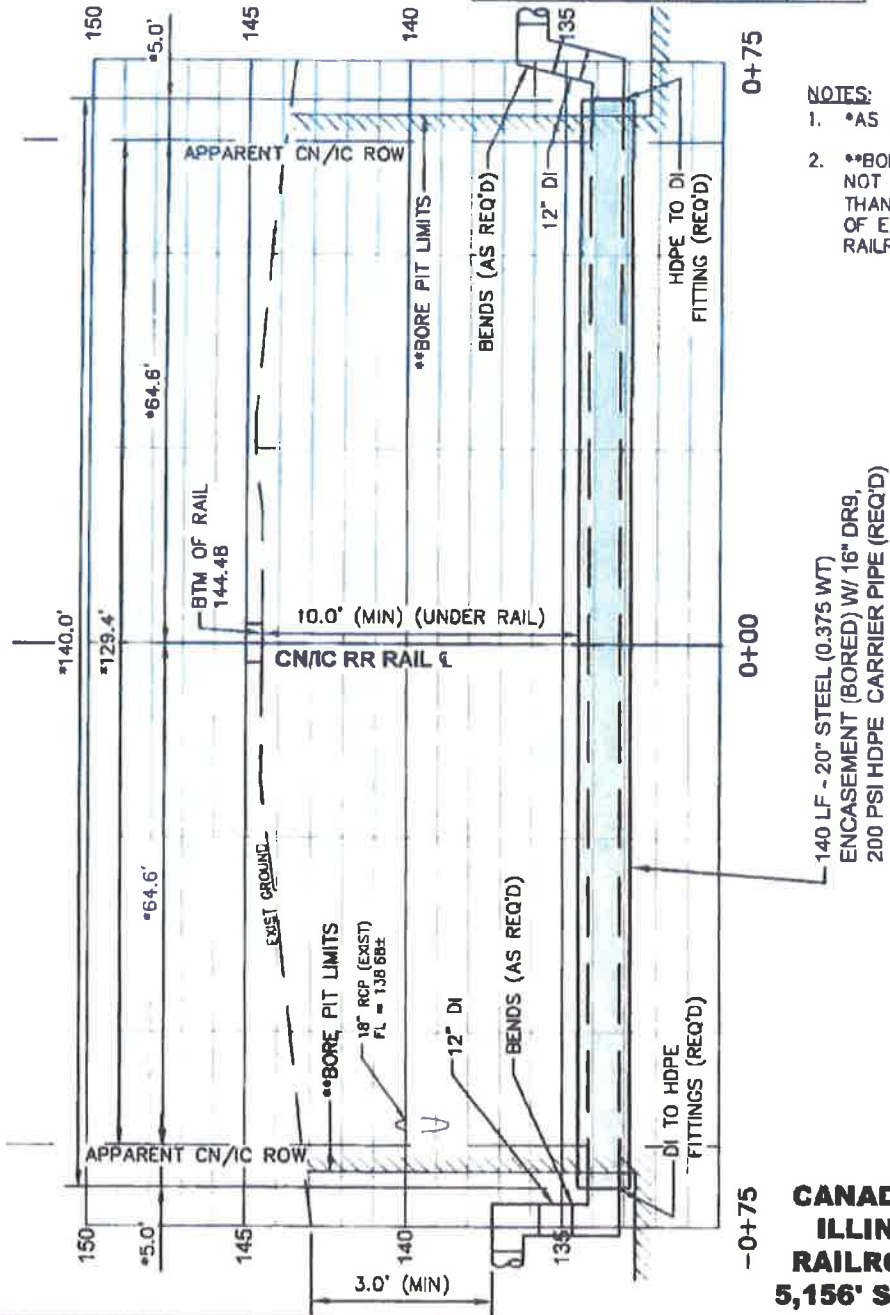
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/02/17	BT		



SCALE:
HORIZ.: 1" = 20'
VERT.: 1" = 5'

NOTES:

1. *AS MEASURED ALONG SECTION
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



**CANADIAN NATIONAL /
ILLINOIS CENTRAL
RAILROAD PIPE BORE:
5,156' SOUTH OF MP #68**



CN System Engineering

**Josh Gordon
Design & Construction
Field Engineer
2151 N. Mill Street.
Jackson, MS 39202
T 601-331-8724**

May 11, 2017
Mr. Joseph S. Wojcik
Track Design Technician
17641 S. Ashland Ave.
Homewood, IL 60430-1345

Subject: Utility P-10911 Hattiesburg, MS Beaumont Sub MP 92.49

Mr. Wojcik,

CN Engineering Design & Construction has reviewed the request to Dry bore and jack 16" HDPE waterline in 20" casing under the Beaumont Sub MP 92.49. No objections at this time. Be certain to follow guidelines below.

- 1.) CN Utility Locate Required.
- 2.) CN's operations are not to be impaired or effected by any of the described work.
- 3.) A flagman, railroad representative is to be present during any and all work on, over, under or near railroad property.
- 4.) All employees of contractors not hired by CN that will work on, over, under or near CN property are required to have, at a minimum, safety certification with www.contractororientation.com and the railroad representative will be responsible for verifying and documenting said certifications.
- 5.) Survey is required before and after work to ensure no settlement during project.

Sincerely,

Josh Gordon
Field Engineer

KCS Insurance Requirements are as follows:

Show The Kansas City Southern Railway Company and its Affiliates, 427 W. 12th St., Kansas City, MO 64105 as a Certificate Holder for the following:

- Maintain **comprehensive general liability**, and contractual liability insurance with minimum limits of \$2,000,000 per occurrence, \$4,000,000 aggregate;
- **Auto liability** coverage in the amount of \$1,000,000 combined single limit;
- Provide or require minimum statutory **worker's compensation coverage** for all covered employees who are on KCS and its Affiliates property;
- No policy will be canceled or materially altered without first giving KCS and its Affiliates thirty (30) day's prior written notice;
- Commercial general liability policy will name The Kansas City Southern Railway Company and its Affiliates as additional insured;
- Will contain a waiver of subrogation in favor of KCS and its Affiliates.

Show The Kansas City Southern Railway Company and its Affiliates, 427 W. 12th St., Kansas City, MO 64105 as the Insured for the following:

- **Railroad Protective Liability Insurance** naming The Kansas City Southern Railway Company and its affiliates as insured - \$2,000,000 per occurrence, \$6,000,000 aggregate. To obtain this policy, please visit www.123ocp.com.

PLEASE NOTE: *****these are TWO separate policies, they cannot be combined on one form since KCS is the Certificate Holder on the Liability Insurance and the Insured on the Railroad Protective Liability insurance*****

KCS Railway Construction Observation/Flagging Requirements

- When is construction observation and flagging required?
- Can the contractor self-perform construction observation and flagging services?
- Who is responsible for the cost of observation/flagging services?
- What is the cost of observation/flagging services?
- How do I arrange for observation/flagging services for my project?
- How soon can I start working on KCS ROW?

When is construction observation and flagging required?

Construction observation and flagging protection are required whenever people, vehicles, or equipment will encroach under, over or on KCS Right-of-Way, including when equipment has the range of possibility to encroach KCS Right-of-Way.

Construction observation must be performed by a KCS authorized Construction Observer and KCS certified Flagman. The Construction Observer ensures the installation meets the approved engineered specifications and serves as quality manager and liaison between the contractor and KCS. The Flagman provides protection to the general public, KCS personnel, equipment, and facilities from the work being performed and protection to contractors working within KCS Right-of-Way.

Can the contractor self-perform construction observation and flagging services?

No. Observation and flagging services can only be performed by KCS authorized & certified construction observers and flagmen. Bartlett & West is the authorized KCS agent for providing these services.

Who is responsible for the cost of construction observation/flagging services?

The permittee or the permittee's designated contractor is responsible for payment. Prepayment of services is required.

What is the cost of construction observation/flagging services?

- Construction Observer daily rate is \$1,500 per day - 10 hour minimum. Hourly rate applies after 10 hours
- Flagman daily rate is \$1,000 per day - 10 hour minimum. Hourly rate applies after 10 hours
- Mobilization/Administrative Fee is \$2,000. Multiple mobilization fees could be charged if the project cannot be constructed on consecutive days and results in a return trip
- Cancellations require a minimum of 12 hours advance notice of the daily scheduled start time

How do I arrange for observation/flagging services for my project?

- Complete Section 1 of the attached Prepay/Schedule Form, prepay for estimated duration of services & execute the Bartlett & West Agreement. The Prepayment Invoice and Bartlett & West Agreement will be sent to you upon receipt of Section 1
- When your KCS Permit is fully executed you may submit Section 2 of the Prepay/Schedule Form indicating your requested start date. Bartlett & West will be notified by KCS & JLL when your permit is approved.

How soon can I start working on KCS ROW?

- A valid KCS Permit is required for scheduling a start date and before any activity can commence on KCS Right-of-Way
- It can take up to 15 business days to schedule services. Please plan accordingly
- In cases where KCS signal line locates are required additional time may be required

Bartlett & West is dedicated to providing you the information you need to complete the installation of your project in a safe environment and according to engineered specifications. Please contact our Service Specialist if you need further assistance.

KSCCrossings@bartwest.com or 817-840-1567



**REQUEST FOR CONSTRUCTION OBSERVATION
AND FLAGGING FIELD SERVICES**

Date:

SECTION 1 PREPAYMENT INFORMATION

Complete Section 1 & send to [KSCrossings@Bartwest.com](mailto:KSCCrossings@Bartwest.com). The prepayment invoice will be issued upon receipt of this form.

PERMIT APPLICATION REFERENCE # 17-3248

APPLICANT COMPANY:

APPLICANT'S NAME:

AT/NEAR CITY AND STATE:

ESTIMATED DURATION IN DAYS FOR WORK BEING PERFORMED WITHIN KANSAS CITY
SOUTHERN RIGHT OF WAY: ESTIMATED TIMEFRAME:

RESPONSIBLE PARTY FOR RECEIPT OF INVOICES & OBSERVATION AGREEMENT:

COMPANY NAME (Legal Name):

CONTACT:

ADDRESS:

CITY:

STATE:

ZIP:

PHONE:

EMAIL:

SECTION 2 SCHEDULE INFORMATION – 15 Day Minimum Advance Notice Required

Section 2 – Submission of proposed start date requires fulfillment of all Bartlett & West and KCS compliance including KCS fees paid, insurance & release of the KCS Agreement & approved Permit Package by JLL.

SCHEDULE INFORMATION: Acceptance of proposed start date is subject to all compliance being met.

*Proposed start date is subject to the availability of Bartlett & West field services crews. Confirmation of start date will be issued via the Project Start Notification.

PROPOSED START DATE FOR INSTALLATION WITHIN KANSAS CITY SOUTHERN
RIGHT OF WAY:

OF DAYS WORKING: SATURDAY ☐ SUNDAY ☐ COMMENT:

SCHEDULED START TIME: END TIME: EACH DAY

PROJECTED COMPLETION DATE OF INSTALLATION WITHIN KANSAS CITY SOUTHERN
RIGHT OF WAY : (based on proposed start date)

FIELD COORDINATOR INFORMATION: (Field contact for applicant or applicant's contractor)

COMPANY NAME:

APPLICANT'S/COORDINATOR'S NAME:

ADDRESS:

CITY:

STATE:

ZIP:

PHONE:

EMAIL:

CONTRACTOR INFORMATION: (If different from applicant)

COMPANY NAME:

CONTRACTOR'S NAME:

ADDRESS:

CITY:

STATE:

ZIP:

PHONE:

EMAIL:

Scheduling of installation & field services will be initiated upon full compliance of all KCS requirements & notification of KCS clearance to install. No work shall commence on the Kansas City Southern right of way without Bartlett & West field services. Submit request form to KSCCrossings@Bartwest.com. For assistance contact [Yvonne Hall @ 817-840-1567](mailto:Yvonne.Hall@Bartwest.com)



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



Application for License to Install Pipeline or Wire Line Encroaching Over, Under or Parallel to KCS Tracks

Crossing - \$2,000 Processing Fee
Parallel - Call Sylvia Schmidt

Submit with non-refundable payable to:

JLL

Attn.: Sylvia Schmidt
4300 Amon Carter Blvd., Suite 100
Fort Worth, Texas 76155

Phone: (817) 230-2688 or Melissa Leal at (817) 230-2614
Email: sylvia.schmidt@am.jll.com or melissa.leal@am.jll.com

17-3248

1. Applicant Information:

Legal Name of the Owner of the Utility: City of Hattiesburg

Attn.: Lamar Rutland, P.E.

Mailing Address: P.O. Box 1898 City, State, Zip: Hattiesburg, MS 39403-1898

Phone: (601) 545-4640

Cell: _____

Email to whom agreement is to be sent: lrutland@hattiesburgms.com

Check One: ☐ Individual

☐ Company

☐ Partnership

☐ Corporation

☒ Municipality

☐ Other (Specify) _____

Who to contact in the event of engineering questions: Kyle D. Wallace, P.E.

Phone: (9601) 544-1821

Cell: (601) 310-7818

Email: kyle@sd-w.com

Proposed Installation Date(s): June 2017

If not constructed within one (1) year, an additional review fee may be charged.

2. Type of Encroachment (Crossing):

Check All That Apply: ☐ Overhead ☒ Underground ☐ Parallel

If Overhead, vertical clearance is _____ (in feet and inches) a 28' minimum is required from top of rail to bottom of overhead crossing point (maximum sag at 212°).

Existing Poles ☐ Yes ☐ No

Distance between poles/Distance from edge of nearest track: _____

If Underground Crossing, depth of casing/carrier pipe: ~~10.0~~ ^{12'} feet below base of rail and ~~6.0~~ ^{10'} feet below ground surface or bottom of ditches, whichever is deeper (if (a) casing is used: minimum 10' below base of rail and minimum 6' from natural ground surface or from bottom of ditches; (b) If casing is not used: minimum 10' below base of rail and minimum 10' from natural ground surface or from bottom of ditches).

If Underground Parallel, distance _____ measured at right angle from centerline of tracks to encroachment (parallel and minimum 25' feet away, then minimum 72" ground cover; parallel and greater than 25' away, then minimum ground cover of 60". If the request is within 50' of KCS right-of-way, utility line shall be at least 10' below the ground for the entire KCS right-of-way.

If an existing crossing is to be abandoned, see Section D - Abandonment on the Specific Requirements sheet.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



3. Location: (provide all the information you can and identify two (2) markers of location information that can independently allow for verification of the wire line location in Section 3 and Section 4).

If crossing, relation to centerline of KCS Tracks at KCS Mile Post 67 + 1,304 feet

If parallel, beginning KCS Mile Post _____ + _____, ending KCS Mile Post + _____

Railroad Subdivision GULFPORT

If spur, distance from point of switch _____ feet

In or near City/Town/Village Hattiesburg, Parish/County Forrest, State MS

Section 23 Township 4N Range 13W

4. Other Distances:

If install is near a KCS bridge or culvert, distance from inside face of back wall on nearest KCS

Bridge: _____ Bridge MP: _____

Distance from centerline of nearest road crossing measured perpendicular to the rail line: 4'

DOTD#: 305-283-V (<http://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/Crossing.aspx>)

Street Name: Barkley Road

5. Angle of Crossing:

66 ° 00 ' 00 " (if crossing track, not less than 45 degrees)

6. Wire Line Commodity:

☐ Telephone ☐ Power Line (Voltage _____) ☐ Other (Specify) _____

☐ Fiber Optic – If underground, number of innerducts within casing pipe _____

If an innerduct will be left spare or empty, clearly identify type of facility that will be installed within each innerduct.

See Section A – General on the Specific Requirements sheet for standards used.

If encroachment is an overhead wire line, proceed to the end of this application and provide signature.

7. Pipeline Commodity:

Commodity to be transmitted in the pipeline: Water

Transmitted by: ☐ Gravity ☒ Force ☐ Liquid
☐ Gas ☐ Steam ☐ Other (Please Specify _____)

Type of Commodity: ☐ Flammable ☒ Non-Flammable ☐ Corrosive ☐ Toxic
☐ Environmental Hazard

If hazardous, toxic or corrosive material, give details: _____

See Section A – General on the Specific Requirements sheet for standards used.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



8. Pipe/Wire Information:	Carrier Pipe	Casing Pipe
Inside Diameter (nominal):	16"	20"
Wall Thickness:	1.778"	0.375"
Material:	HDPE	Steel
Minimum Yield Point of Material:		35 ksi
Type of Joint:	Heat Fusion	Welded
Maximum Operating Pressure in Pipeline:	N/A	N/A
Hydrostatic pressure at which carrier pipe will be tested before using:	150 psi	
Will carrier pipe have protective coating?	☐ Yes ☒ No If so, please provide type: _____	
Will carrier pipe be cathodically protected?	☐ Yes ☒ No	
Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.		

9. Casing Information:
Length of casing pipe <u>120 LF 240'</u> (if casing pipe is vented, casing shall extend to right-of-way lines; if not vented, casing shall be a minimum 25' each side as measured at right angles to centerline of track).
Will casing pipe have protective coating? ☐ Yes ☒ No
If so, please provide type: _____
Will casing pipe be cathodically protected? ☐ Yes ☒ No
Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.
See Section B – Casing and Section E – Signage on the Specific Requirements sheet for additional requirements.

10. Method of Installing Pipe/Wire: <u>Dry Bore and Jack</u>
Dry Bore and Jack, Conventional Dry Bore or Directional Drill up to 10". Wet boring or open cut trenching across tracks WILL NOT be permitted.
See Section C – Boring and Section F – Shoring on the Specific Requirements sheet for additional requirements.

11. Venting:
Will casing pipe be vented? ☐ Yes ☒ No Diameter: _____ (minimum 2")
Number of Vents: _____ Vent Height above ground surface: _____ (minimum 4')
Pipes carrying flammable contents must be vented. Vents are to be located at ends of casing off of KCS property and to be shown on drawing.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



12. Additional Fees:

All excavations and installations on KCS's right-of-way will require construction observation, documentation and flagging by KCS or its authorized representative. Applicant or its contractor must contact Bartlett & West; KCS's authorized representative, a minimum of 10 days in advance of the scheduled construction date. Applicant will contract directly with Bartlett & West for the above services. The contact at Bartlett & West is Tom Faulkner at (817) 840-1562 or 785-215-2011, or by email at thomas.faulkner@bartwest.com. All costs associated with construction observation and flagging are the sole responsibility of the applicant. The daily services fees are \$2,500 per day, which include flagging and construction observation services. In addition to the daily fee, a fee of \$2,000 per mobilization fee will be charged for each job. Prices are subject to change and can double for 24-hour construction projects. No agreement for crossing or encroachment will be executed by KCS until applicant has contracted with Bartlett & West for the construction observation and flagging.

Each encroachment will also be subject to an annual or one-time fee, dependent on the type of installation and length of encroachment. If you will need to know these amounts before application, contact Sylvia Schmidt at sylvia.schmidt@am.jll.com or 817-230-2688.

Extreme caution is to be used in excavation due to the possible existence of other underground facilities along KCS's right-of-way. Any damage to existing facilities will be the sole responsibility of the applicant. In compliance with State law, prior to commencing work, the contractor shall notify appropriate State "One Call" service.

13. Existing Agreement? ☐ Yes ☒ No

If replacing or repairing an existing line, a copy of the current permit agreement with KCS must be provided and accompany this application.

14. Was this service requested by KCS? ☐ Yes ☒ No

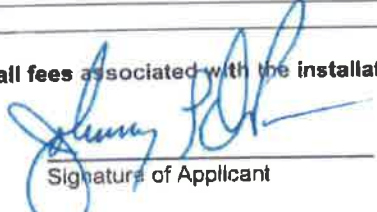
If yes, who requested? _____ Phone #: _____

Is this installation in conjunction with a track or track expansion project? ☐ Yes ☒ No

If yes, KCS contact name and phone number: _____ Phone#: _____

By signing below, applicant agrees to pay all fees associated with the installation of this utility.

Johnny L. DuFree, Mayor
Name of Applicant


Signature of Applicant

2-21-17
Date

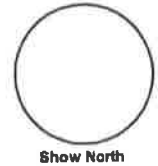
If application is not signed and dated by applicant, application will be returned.

RAILROAD PERMIT

Sheet No.: 1 of 4

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		



GENERAL NOTES:

1. RAILROAD REPRESENTATIVE AND FLAGMAN SHALL BE PRESENT DURING ALL CONSTRUCTION CROSSING THE RAILROAD.
2. EXCAVATION SHALL NOT BE PERMITTED INSIDE RAILROAD RIGHT-OF-WAY.
3. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF THE RAILROADS PIPELINE OCCUPANCY SPECIFICATIONS.
4. PIPELINE AND CROSSING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.
5. BLASTING NOT PERMITTED.
6. WHERE THE WATER MAIN IS WITHIN 10 FEET OF A SEWER MAIN HORIZONTALLY, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18" FROM THE TOP OF THE SEWER MAIN, UNLESS OTHERWISE NOTED.
7. WORK FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES. THEREFORE, THE RISK OF A FAILURE OCCURRING DURING THE EXCAVATION REQUIRES THAT EXTREME CAUTION BE EXERCISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING WHAT BRACING, SHORING OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE EXCAVATION, THE PUBLIC THAT MAY BE ABOVE THE EXCAVATION, OR ANY STRUCTURE ADJACENT TO THE EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAWING AND CONSTRUCTING THE FACILITY SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT ITEMS.

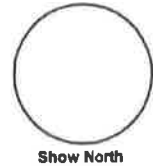
**KANSAS CITY SOUTHERN RAILROAD
GENERAL NOTES**

RAILROAD PERMIT

Sheet No.: 2 of 4

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		



LINETYPE & SYMBOLS LEGEND:

	- CENTER LINE
	- RAILROAD
	- APPARENT KANSAS CITY SOUTHERN RAILROAD ROW
	- FENCE (EXIST)
	- FIBER OPTIC INDICATOR POST (EXIST)
	- FIBER OPTIC PULL BOX (EXIST)
	- FIRE HYDRANT (EXIST)
	- GAS INDICATOR POST (EXIST)
	- GAS LINE (EXIST)
	- GAS METER (EXIST)
	- GAS VALVE (EXIST)
	- GATE POST (EXIST)
	- LIGHT ON POLE (EXIST)
	- OVERHEAD UTILITY LINES (EXIST)
	- OVERHEAD UTILITY LINES (EXIST)
	- POLE GUY WIRE (EXIST)
	- PROPERTY LINE (EXIST)
	- SAN SWR FORCE MAIN (EXIST)
	- SAN SWR LINE (EXIST)
	- SAN SWR PUMP STATION (EXIST)
	- SIGN (EXIST)
	- SIGNAL (EXIST)
	- TREE LINE (EXIST)
	- DITCH (EXIST)
	- UNDERGROUND FIBER OPTIC LINE (EXIST)
	- UTILITY POLE (EXIST)
	- WATER LINE (EXIST)
	- WATER METER (EXIST)
	- WATER VALVE (EXIST)
	- WATER VALVE (REQ'D)
	- REDUCING FITTING (REQ'D)
	- FIRE HYDRANT (REQ'D)
	- WATER LINE (REQ'D)

ABBREVIATIONS LEGEND:

APPURT	- APPURTENANCES
BLDG	- BUILDING
BTM	- BOTTOM
CL	- CENTERLINE
CONC	- CONCRETE
CMP	- CORRUGATED METAL PIPE
CPP	- CORRUGATED PLASTIC PIPE
DI	- DUCTILE IRON PIPE
DR	- DIAMETER RATIO
EOP	- EDGE OF PAVEMENT
EXIST	- EXISTING
HDPE	- HIGH DENSITY POLYETHYLENE
KCS	- KANSAS CITY SOUTHERN
LF	- LINEAR FEET
PL	- PROPERTY LINE
RCP	- REINFORCED CONCRETE PIPE
REQ'D	- REQUIRED
ROW	- RIGHT OF WAY
RR	- RAILROAD
SAN	- SANITARY
SEW	- SEWER
W/	- WITH
WT	- WALL THICKNESS
XING	- CROSSING

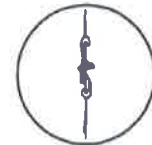
KANSAS CITY SOUTHERN RAILROAD ABBREVIATIONS & LEGEND

RAILROAD PERMIT

Sheet No.: 3 of 4

Permit No.: _____

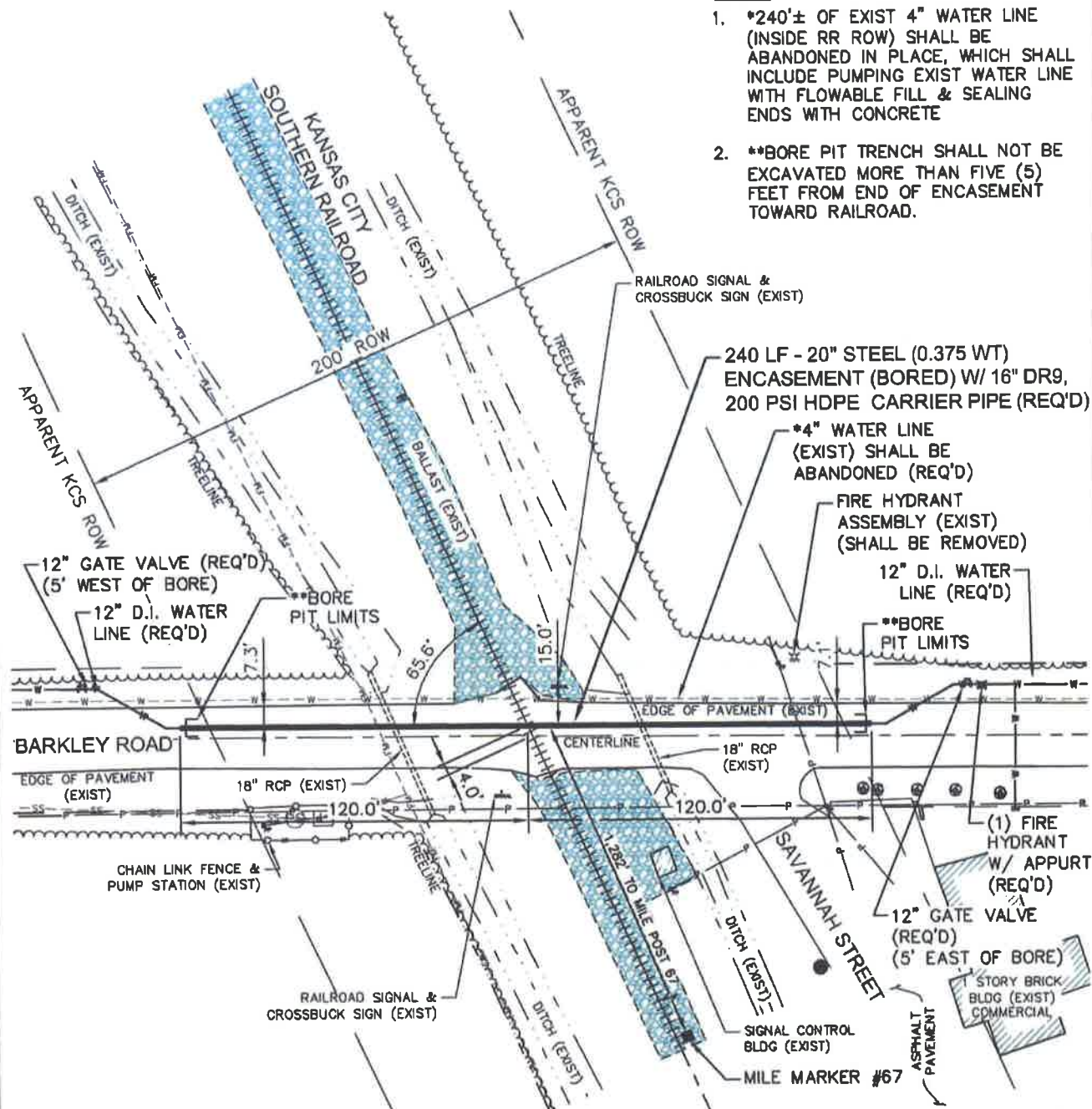
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



SCALE: 1" = 50'

NOTES:

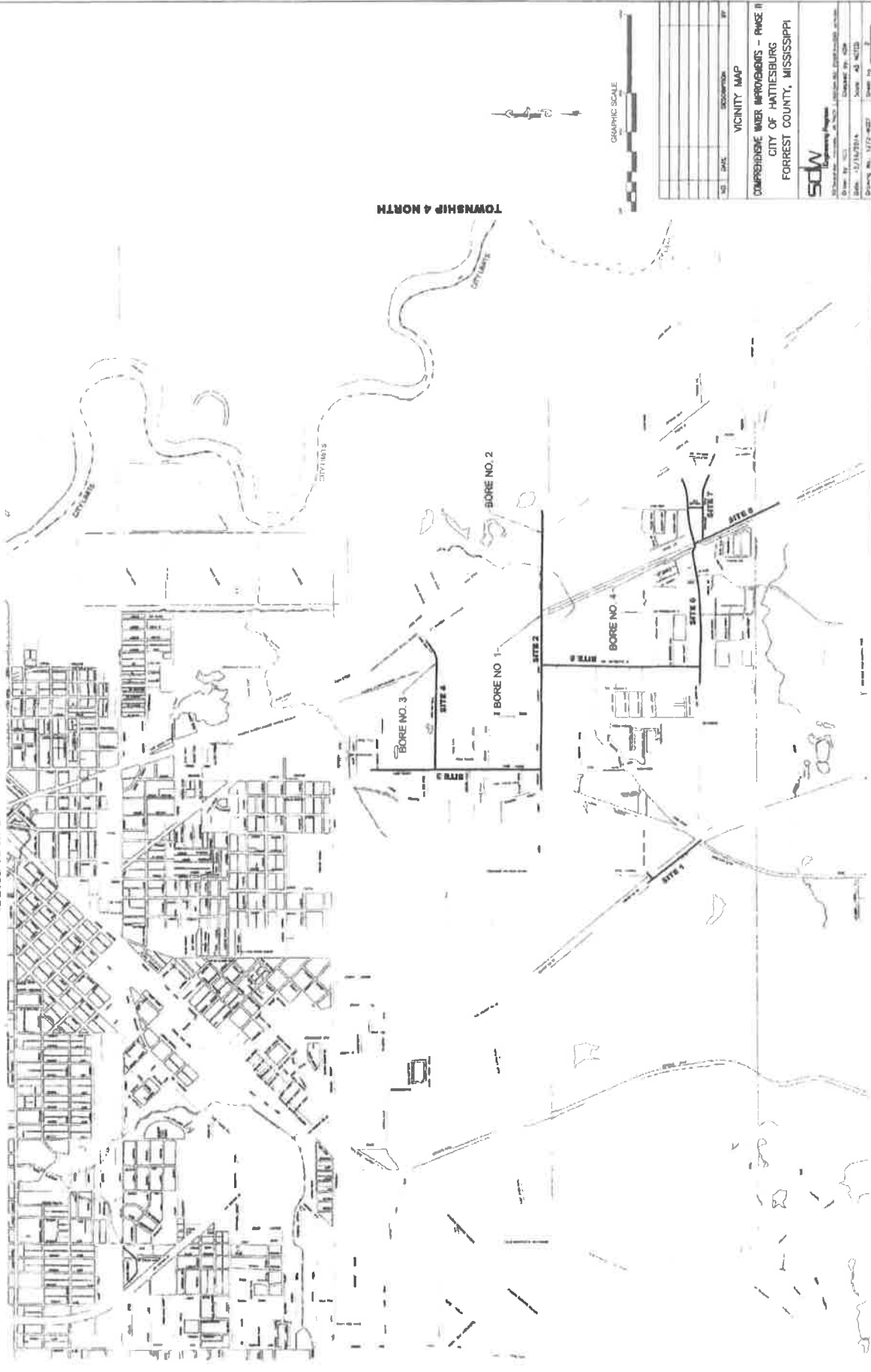
1. *240'± OF EXIST 4" WATER LINE (INSIDE RR ROW) SHALL BE ABANDONED IN PLACE, WHICH SHALL INCLUDE PUMPING EXIST WATER LINE WITH FLOWABLE FILL & SEALING ENDS WITH CONCRETE
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 1,282' NORTH OF MP #67

RANGE 13 WEST

TOWNSHIP 4 NORTH



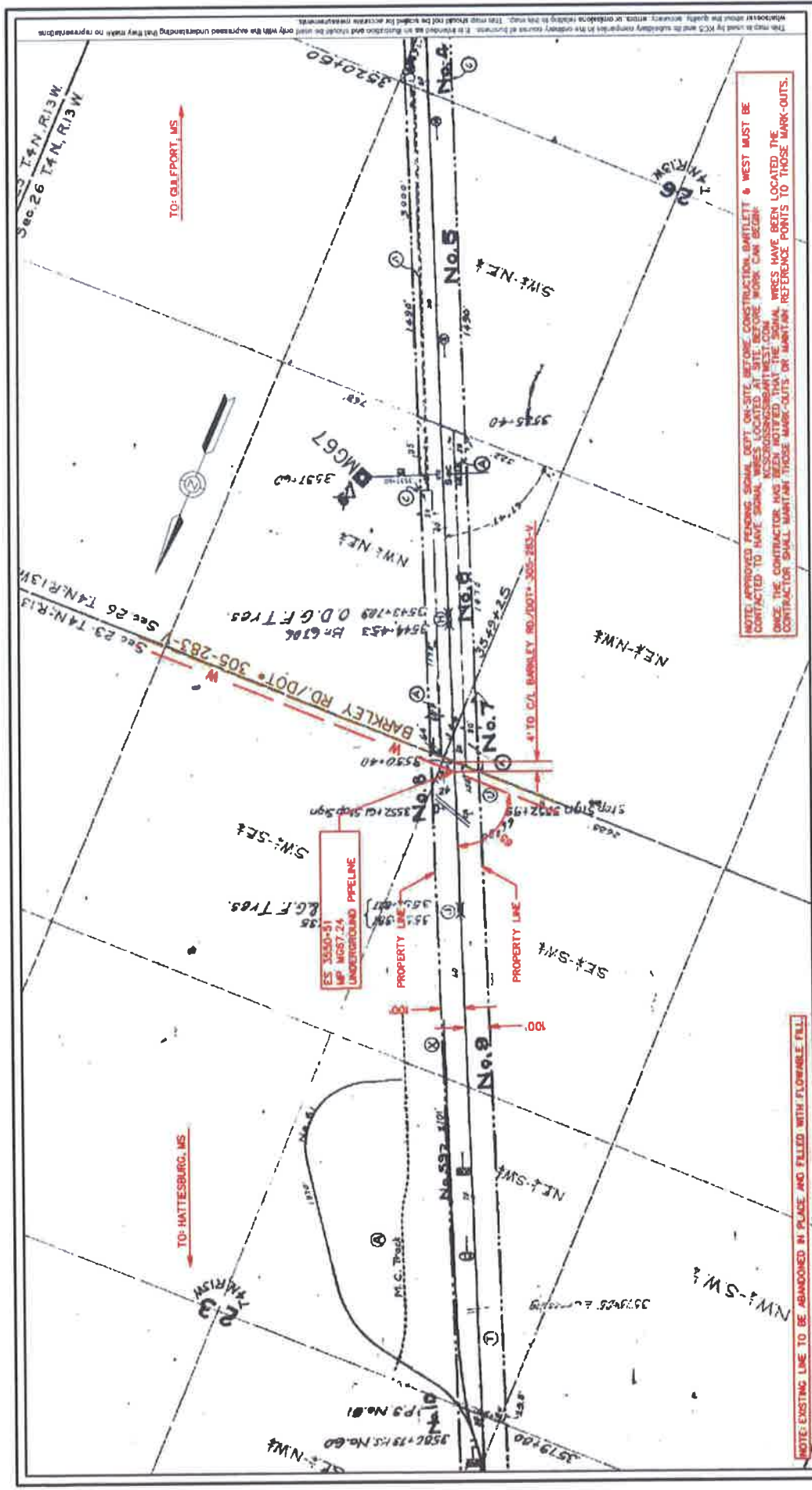
GRAPHIC SCALE

VICINITY MAP

COMPREHENSIVE WATER IMPROVEMENTS - PHASE II
CITY OF HATTIESBURG
FORREST COUNTY, MISSISSIPPI

sdw
Engineering Program

PROJECT NO. 1273-W007
DATE: 12/16/2014
DRAWN BY: JCH
CHECKED BY: JCH
SCALE: AS SHOWN
SHEET NO. 1



INSTALLATION DETAILS

ITEM	DESCRIPTION	UNIT	QUANTITY
1	PIPE	INCHES	100
2	PIPE	INCHES	100
3	PIPE	INCHES	100
4	PIPE	INCHES	100
5	PIPE	INCHES	100
6	PIPE	INCHES	100
7	PIPE	INCHES	100
8	PIPE	INCHES	100
9	PIPE	INCHES	100
10	PIPE	INCHES	100

SPECIFICATIONS:

1. PIPE SHALL BE 12" DIA. STEEL PIPE.

2. PIPE SHALL BE 12" DIA. STEEL PIPE.

3. PIPE SHALL BE 12" DIA. STEEL PIPE.

4. PIPE SHALL BE 12" DIA. STEEL PIPE.

5. PIPE SHALL BE 12" DIA. STEEL PIPE.

6. PIPE SHALL BE 12" DIA. STEEL PIPE.

7. PIPE SHALL BE 12" DIA. STEEL PIPE.

8. PIPE SHALL BE 12" DIA. STEEL PIPE.

9. PIPE SHALL BE 12" DIA. STEEL PIPE.

10. PIPE SHALL BE 12" DIA. STEEL PIPE.

EXHIBIT "A"

PROPOSED UNDERGROUND WATER PIPELINE CROSSING FOR CITY OF HATTESBURG, MS

AT MP 1067.24 GULFPORT SUBD.

HATTESBURG, MS (31.280406, -90.271590)

17-3248

KCS FILE NO:

Scale: 1" = 400'

Sheet No: 1 of 1

Map #:

Company: BARTLETT & WEST

Checked By: JFB

Drawn By: JFB

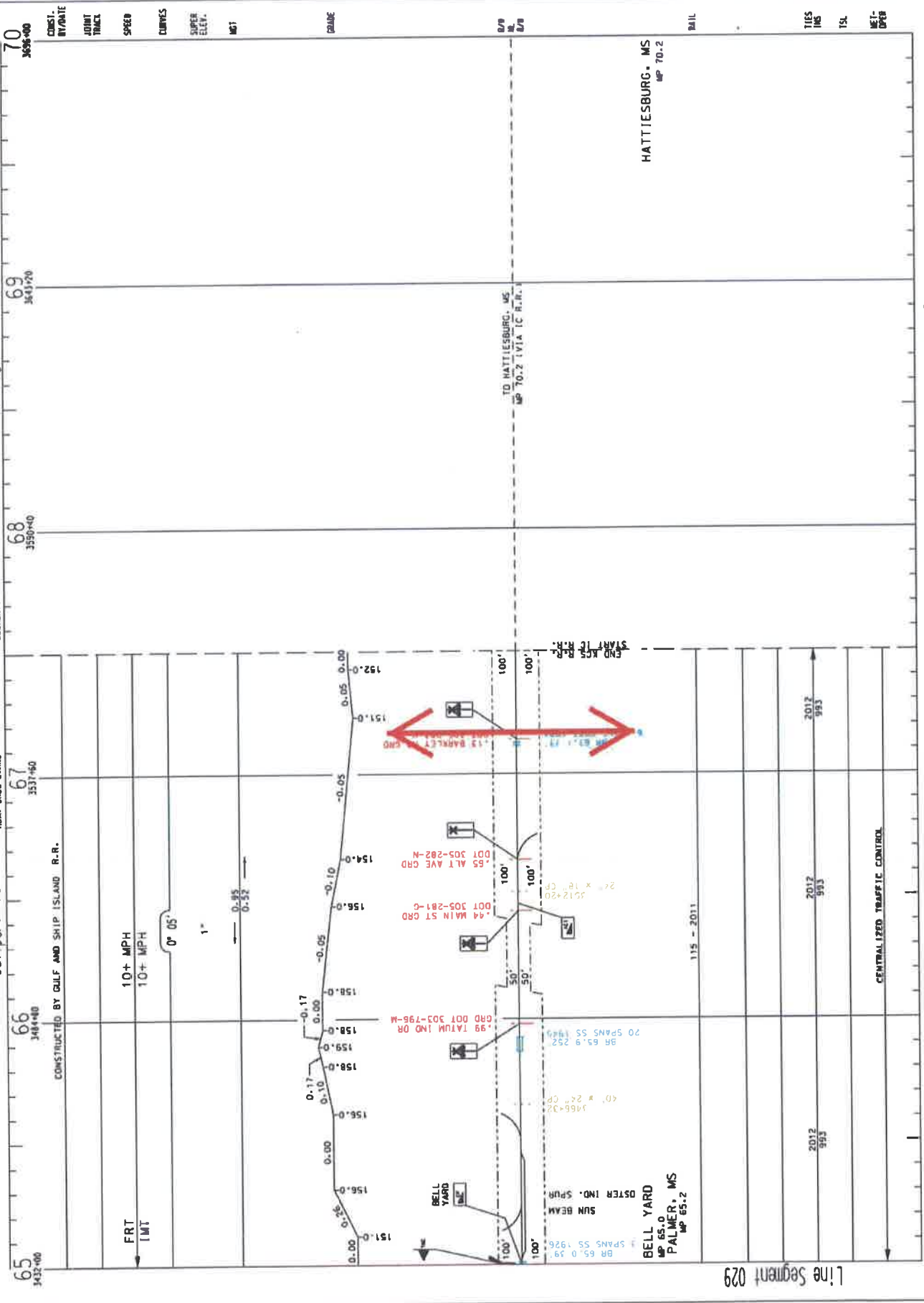
Date: 06-14-2017

APPROVED BY:

← Gulfport, MS

SEGMENT: GULFPORT TO HATTIESBURG

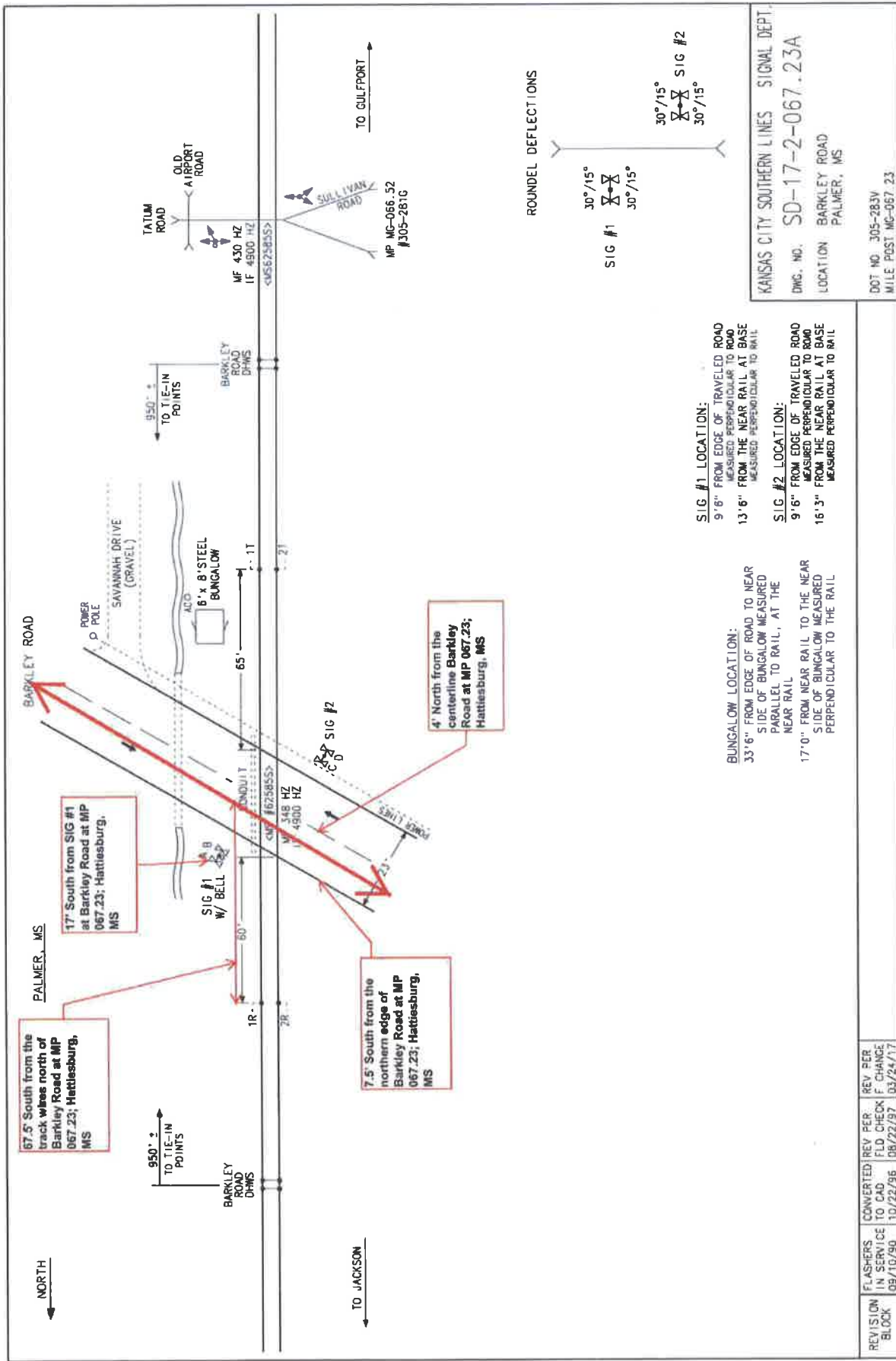
Hattiesburg, MS →

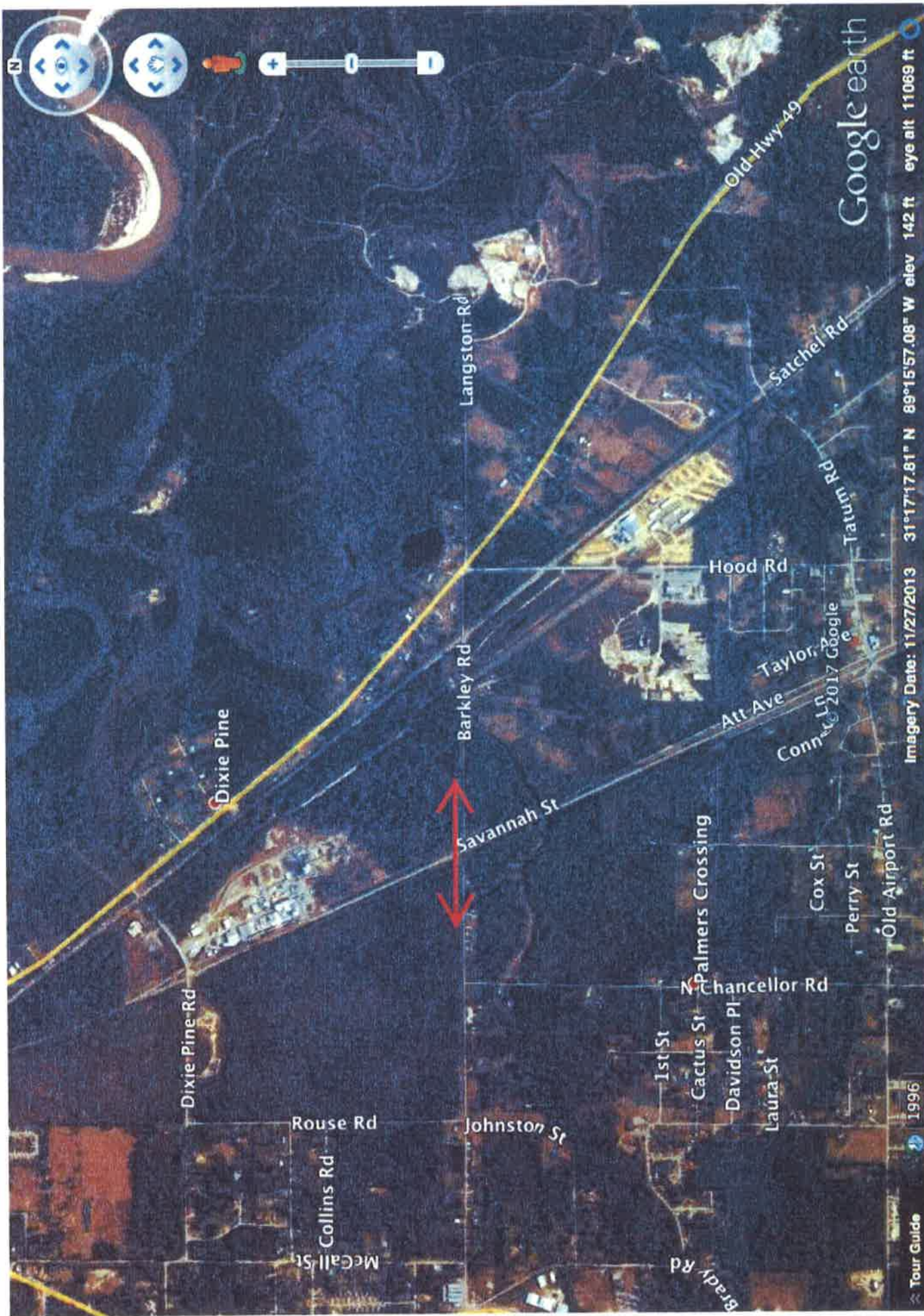


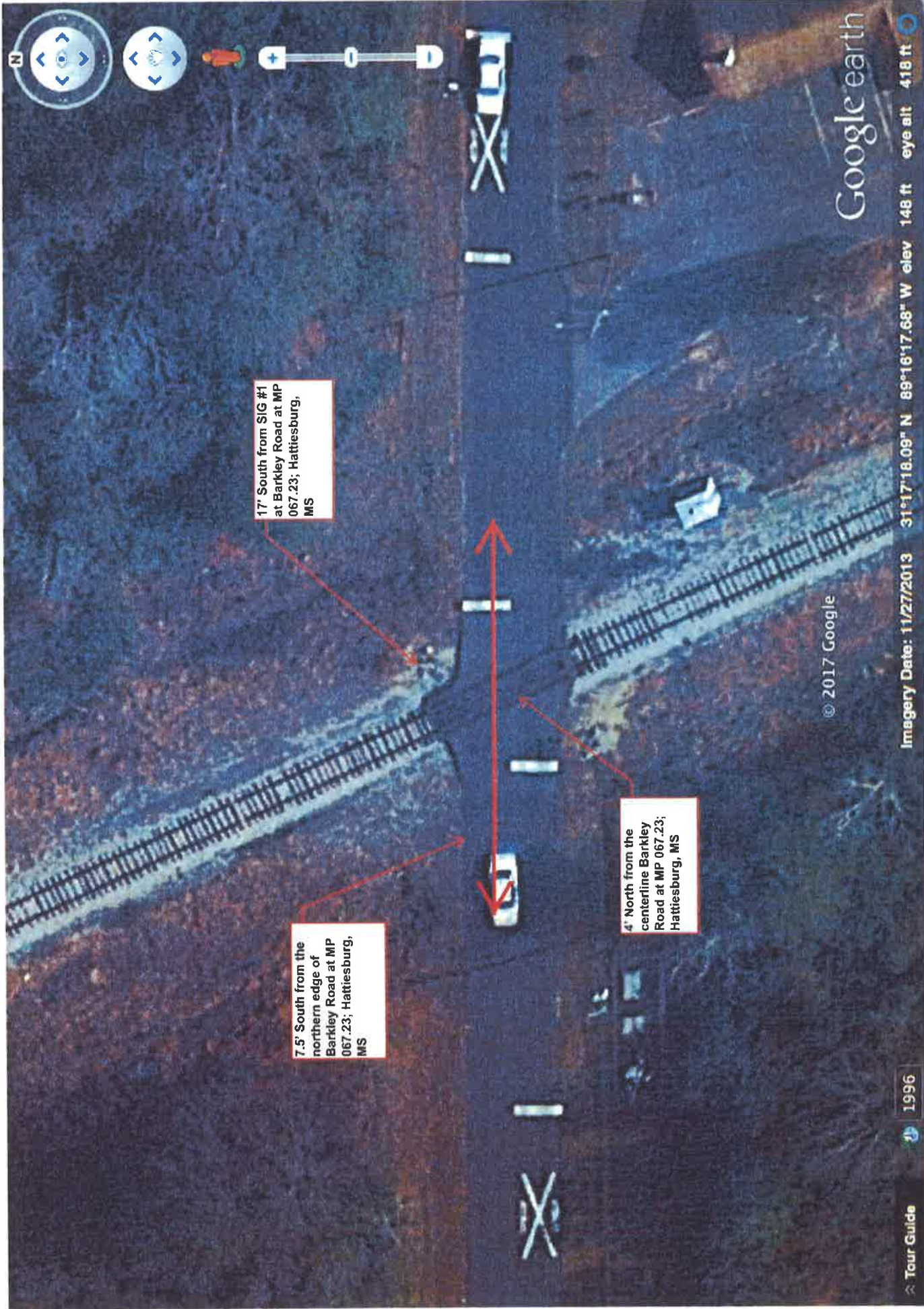
Line Segment 029

1100-630.dgn
Revised : 3-3-2014

Gulfport Branch
029-014







17' South from SIG #1
at Barkley Road at MP
067.23; Hattiesburg,
MS

7.5' South from the
northern edge of
Barkley Road at MP
067.23; Hattiesburg,
MS

4' North from the
centerline Barkley
Road at MP 067.23;
Hattiesburg, MS

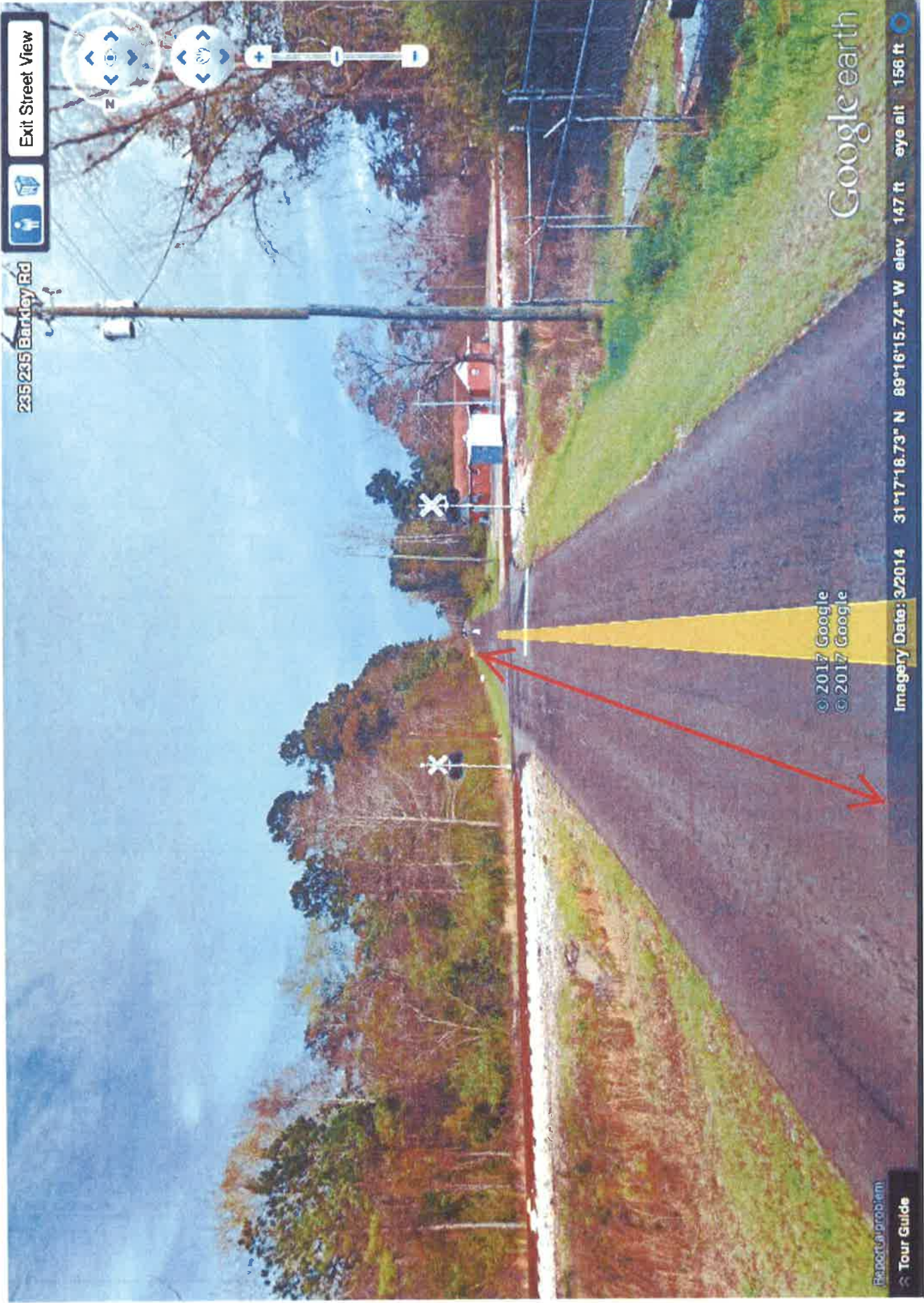
Google earth

© 2017 Google

Imagery Date: 11/27/2013 31°17'18.09" N 89°16'17.68" W elev 148 ft eye alt 418 ft

1996

Tour Guide



235 235 Barkley Rd

Exit Street View



© 2017 Google
© 2017 Google

Google earth

Report a problem
Tour Guide

Imagery Date: 3/2014 31°17'18.73" N 89°16'15.74" W elev 147 ft eye alt 156 ft



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



Application for License to Install Pipeline or Wire Line Encroaching Over, Under or Parallel to KCS Tracks

Crossing - \$2,000 Processing Fee
Parallel - Call Sylvia Schmidt

Submit with non-refundable payable to:
JLL

Attn.: Sylvia Schmidt
4300 Amon Carter Blvd., Suite 100
Fort Worth, Texas 76155

Phone: (817) 230-2688 or Melissa Leal at (817) 230-2614
Email: sylvia.schmidt@am.jll.com or melissa.leal@am.jll.com

17-3249

1. Applicant Information:

Legal Name of the Owner of the Utility: City of Hattiesburg

Attn.: Lamar Rutland, P.E.

Mailing Address: P.O. Box 1898 City, State, Zip: Hattiesburg, MS 39403-1898

Phone: (601) 545-4640

Cell: _____

Email to whom agreement is to be sent: lrutland@hattiesburgms.com

Check One: ☐ Individual

☐ Company

☐ Partnership

☐ Corporation

☒ Municipality

☐ Other (Specify) _____

Who to contact in the event of engineering questions: Kyle D. Wallace, P.E.

Phone: (601) 544-1821

Cell: (601) 310-7818

Email: kyle@sd-w.com

Proposed Installation Date(s): June 2017

If not constructed within one (1) year, an additional review fee may be charged.

2. Type of Encroachment (Crossing):

Check All That Apply: ☐ Overhead ☒ Underground ☐ Parallel

If Overhead, vertical clearance is _____ (in feet and inches) a 28' minimum is required from top of rail to bottom of overhead crossing point (maximum sag at 212°).

Existing Poles ☐ Yes ☐ No

Distance between poles/Distance from edge of nearest track: _____ / _____

If Underground Crossing, depth of casing/carrier pipe: 10.0 feet below base of rail and 8.9 feet below ground surface or bottom of ditches, whichever is deeper (if (a) casing is used: minimum 10' below base of rail and minimum 6' from natural ground surface or from bottom of ditches; (b) if casing is not used: minimum 10' below base of rail and minimum 10' from natural ground surface or from bottom of ditches).

If Underground Parallel, distance _____ measured at right angle from centerline of tracks to encroachment (parallel and minimum 25' feet away, then minimum 72" ground cover; parallel and greater than 25' away, then minimum ground cover of 60". If the request is within 50' of KCS right-of-way, utility line shall be at least 10' below the ground for the entire KCS right-of-way.

If an existing crossing is to be abandoned, see Section D - Abandonment on the Specific Requirements sheet.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



3. Location: (provide all the information you can and identify two (2) markers of location information that can independently allow for verification of the wire line location in Section 3 and Section 4).

If crossing, relation to centerline of KCS Tracks at KCS Mile Post 68 + 1,057 feet

If parallel, beginning KCS Mile Post + , ending KCS Mile Post +

Railroad Subdivision GULFPORT

If spur, distance from point of switch feet

In or near City/Town/Village Hattiesburg, Parish/County Forrest, State MS

Section 23 Township 4N Range 13W

4. Other Distances:

If install is near a KCS bridge or culvert, distance from inside face of back wall on nearest KCS

Bridge: Bridge MP:

Distance from centerline of nearest road crossing measured perpendicular to the rail line: 8.7', 8.3', 7.5'

DOTD#: (<http://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/CrossingCrossing.aspx>)

Street Name: Dixie Pine Road

5. Angle of Crossing:

67 ° 00 ' 00 " (if crossing track, not less than 45 degrees)

6. Wire Line Commodity:

☐ Telephone ☐ Power Line (Voltage) ☐ Other (Specify)

☐ Fiber Optic – If underground, number of innerducts within casing pipe

If an innerduct will be left spare or empty, clearly identify type of facility that will be installed within each innerduct.

See Section A – General on the Specific Requirements sheet for standards used.

If encroachment is an overhead wire line, proceed to the end of this application and provide signature.

7. Pipeline Commodity:

Commodity to be transmitted in the pipeline: Water

Transmitted by: ☐ Gravity ☒ Force ☐ Liquid
☐ Gas ☐ Steam ☐ Other (Please Specify)

Type of Commodity: ☐ Flammable ☒ Non-Flammable ☐ Corrosive ☐ Toxic
☐ Environmental Hazard

If hazardous, toxic or corrosive material, give details:

See Section A – General on the Specific Requirements sheet for standards used.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



8. Pipe/Wire Information:

	<u>Carrier Pipe</u>	<u>Casing Pipe</u>
Inside Diameter (nominal):	<u>16"</u>	<u>20"</u>
Wall Thickness:	<u>1.778"</u>	<u>0.375"</u>
Material:	<u>HDPE</u>	<u>Steel</u>
Minimum Yield Point of Material:	<u>65 PSI</u>	<u>35 ksi</u>
Type of Joint:	<u>Heat Fusion</u>	<u>Welded</u>
Maximum Operating Pressure in Pipeline:	<u>N/A</u>	<u>N/A</u>

Hydrostatic pressure at which carrier pipe will be tested before using: 150 psi

Will carrier pipe have protective coating? ☐ Yes ☒ No If so, please provide type: _____

Will carrier pipe be cathodically protected? ☐ Yes ☒ No

Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.

9. Casing Information:

Length of casing pipe 200 LF 216' (if casing pipe is vented, casing shall extend to right-of-way lines; if not vented, casing shall be a minimum 25' each side as measured at right angles to centerline of track).

Will casing pipe have protective coating? ☐ Yes ☒ No

If so, please provide type: _____

Will casing pipe be cathodically protected? ☐ Yes ☒ No

Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.

See Section B – Casing and Section E – Signage on the Specific Requirements sheet for additional requirements.

10. Method of Installing Pipe/Wire: Dry Bore and Jack

*Dry Bore and Jack, Conventional Dry Bore or Directional Drill up to 10". Wet boring or open cut trenching across tracks **WILL NOT** be permitted.*

See Section C – Boring and Section F – Shoring on the Specific Requirements sheet for additional requirements.

11. Venting:

Will casing pipe be vented? ☐ Yes ☒ No Diameter: _____ (minimum 2")

Number of Vents: _____ Vent Height above ground surface: _____ (minimum 4')

Pipes carrying flammable contents must be vented. Vents are to be located at ends of casing off of KCS property and to be shown on drawing.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



12. Additional Fees:

All excavations and installations on KCS's right-of-way will require construction observation, documentation and flagging by KCS or its authorized representative. Applicant or its contractor must contact Bartlett & West; KCS's authorized representative, a minimum of 10 days in advance of the scheduled construction date. Applicant will contract directly with Bartlett & West for the above services. The contact at Bartlett & West is Tom Faulkner at (817) 840-1562 or 785-215-2011, or by email at thomas.faulkner@bartwest.com. All costs associated with construction observation and flagging are the sole responsibility of the applicant. The daily services fees are \$2,500 per day, which include flagging and construction observation services. In addition to the daily fee, a fee of \$2,000 per mobilization fee will be charged for each job. Prices are subject to change and can double for 24-hour construction projects. No agreement for crossing or encroachment will be executed by KCS until applicant has contracted with Bartlett & West for the construction observation and flagging.

Each encroachment will also be subject to an annual or one-time fee, dependent on the type of installation and length of encroachment. If you will need to know these amounts before application, contact Sylvia Schmidt at sylvia.schmidt@am.jll.com or 817-230-2688.

Extreme caution is to be used in excavation due to the possible existence of other underground facilities along KCS's right-of-way. Any damage to existing facilities will be the sole responsibility of the applicant. In compliance with State law, prior to commencing work, the contractor shall notify appropriate State "One Call" service.

13. Existing Agreement? ☐ Yes ☒ No

*If replacing or repairing an existing line, a copy of the current permit agreement with KCS **must** be provided and accompany this application.*

14. Was this service requested by KCS? ☐ Yes ☒ No

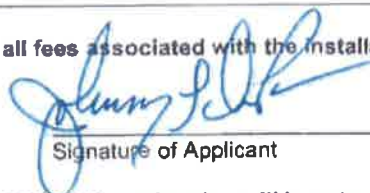
If yes, who requested? _____ Phone #: _____

Is this Installation in conjunction with a track or track expansion project? ☐ Yes ☒ No

If yes, KCS contact name and phone number: _____ Phone#: _____

By signing below, applicant agrees to pay all fees associated with the installation of this utility.

Johnny L. DuPree, Mayor
Name of Applicant


Signature of Applicant

2-21-17
Date

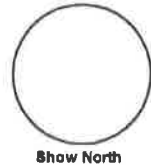
If application is not signed and dated by applicant, application will be returned.

RAILROAD PERMIT

Sheet No.: 1 of 4

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		



GENERAL NOTES:

1. RAILROAD REPRESENTATIVE AND FLAGMAN SHALL BE PRESENT DURING ALL CONSTRUCTION CROSSING THE RAILROAD.
2. EXCAVATION SHALL NOT BE PERMITTED INSIDE RAILROAD RIGHT-OF-WAY.
3. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF THE RAILROADS PIPELINE OCCUPANCY SPECIFICATIONS.
4. PIPELINE AND CROSSING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.
5. BLASTING NOT PERMITTED.
6. WHERE THE WATER MAIN IS WITHIN 10 FEET OF A SEWER MAIN HORIZONTALLY, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18" FROM THE TOP OF THE SEWER MAIN, UNLESS OTHERWISE NOTED.
7. WORK FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES. THEREFORE, THE RISK OF A FAILURE OCCURRING DURING THE EXCAVATION REQUIRES THAT EXTREME CAUTION BE EXERCISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING WHAT BRACING, SHORING OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE EXCAVATION, THE PUBLIC THAT MAY BE ABOVE THE EXCAVATION, OR ANY STRUCTURE ADJACENT TO THE EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAWING AND CONSTRUCTING THE FACILITY SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT ITEMS.

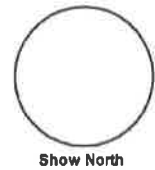
**KANSAS CITY SOUTHERN RAILROAD
GENERAL NOTES**

RAILROAD PERMIT

Sheet No.: 2 of 4

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		



LINETYPE & SYMBOLS LEGEND:

	- CENTER LINE
	- RAILROAD
	- APPARENT KANSAS CITY SOUTHERN RAILROAD ROW
	- FENCE (EXIST)
	- FIBER OPTIC INDICATOR POST (EXIST)
	- FIBER OPTIC PULL BOX (EXIST)
	- FIRE HYDRANT (EXIST)
	- GAS INDICATOR POST (EXIST)
	- GAS LINE (EXIST)
	- GAS METER (EXIST)
	- GAS VALVE (EXIST)
	- GATE POST (EXIST)
	- LIGHT ON POLE (EXIST)
	- OVERHEAD UTILITY LINES (EXIST)
	- OVERHEAD UTILITY LINES (EXIST)
	- POLE GUY WIRE (EXIST)
	- PROPERTY LINE (EXIST)
	- SAN SWR FORCE MAIN (EXIST)
	- SAN SWR LINE (EXIST)
	- SAN SWR PUMP STATION (EXIST)
	- SIGN (EXIST)
	- SIGNAL (EXIST)
	- TREE LINE (EXIST)
	- DITCH (EXIST)
	- UNDERGROUND FIBER OPTIC LINE (EXIST)
	- UTILITY POLE (EXIST)
	- WATER LINE (EXIST)
	- WATER METER (EXIST)
	- WATER VALVE (EXIST)
	- WATER VALVE (REQ'D)
	- REDUCING FITTING (REQ'D)
	- FIRE HYDRANT (REQ'D)
	- WATER LINE (REQ'D)

ABBREVIATIONS LEGEND:

APPURT	- APPURTENANCES
BLDG	- BUILDING
BTM	- BOTTOM
CL	- CENTERLINE
CONC	- CONCRETE
CMP	- CORRUGATED METAL PIPE
CPP	- CORRUGATED PLASTIC PIPE
DI	- DUCTILE IRON PIPE
DR	- DIAMETER RATIO
EOP	- EDGE OF PAVEMENT
EXIST	- EXISTING
HDPE	- HIGH DENSITY POLYETHYLENE
KCS	- KANSAS CITY SOUTHERN
LF	- LINEAR FEET
PL	- PROPERTY LINE
RCP	- REINFORCED CONCRETE PIPE
REQ'D	- REQUIRED
ROW	- RIGHT OF WAY
RR	- RAILROAD
SAN	- SANITARY
SEW	- SEWER
W/	- WITH
WT	- WALL THICKNESS
XING	- CROSSING

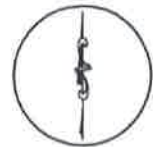
KANSAS CITY SOUTHERN RAILROAD ABBREVIATIONS & LEGEND

RAILROAD PERMIT

Sheet No.: 3 of 4

Permit No.: _____

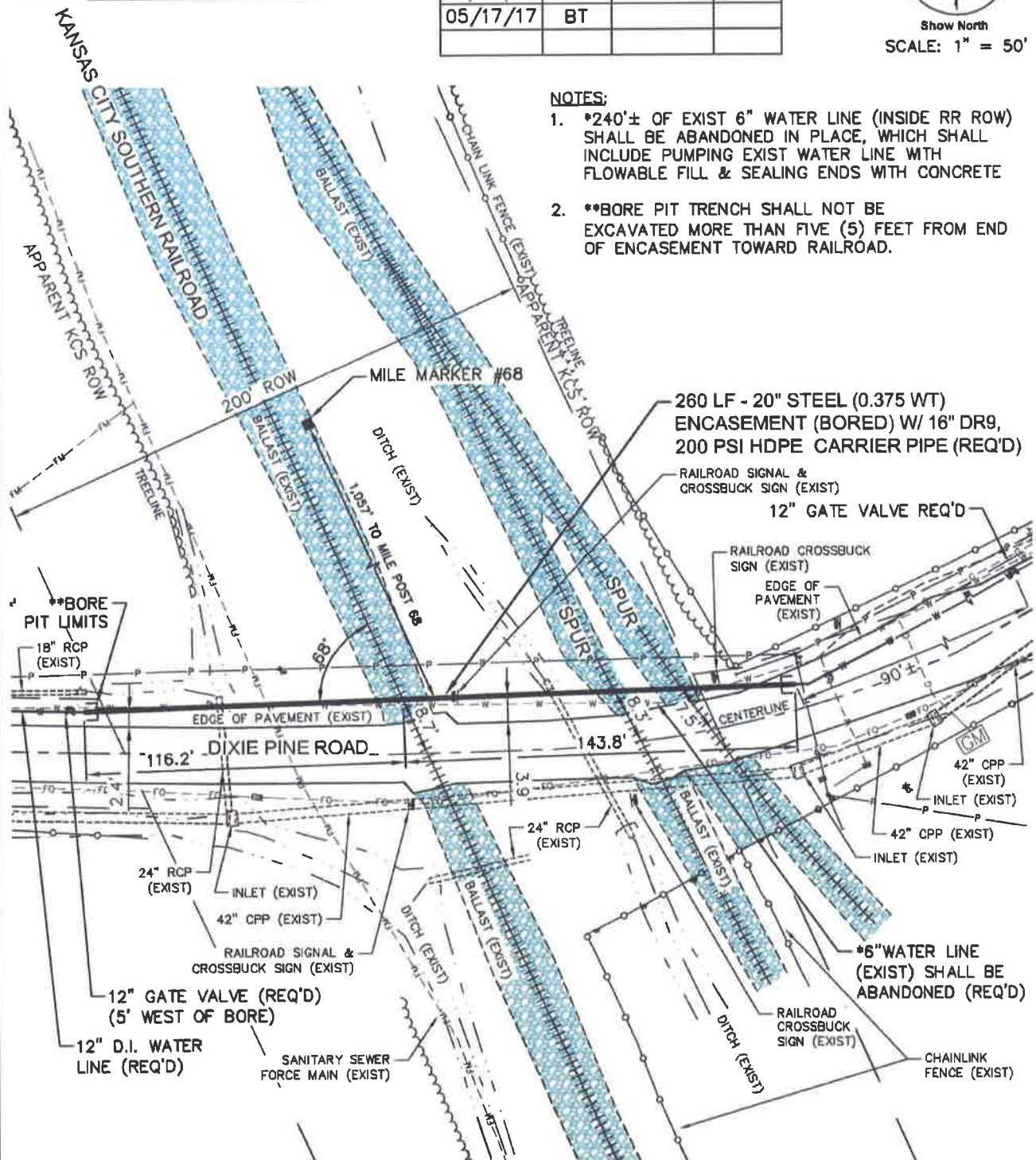
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



SCALE: 1" = 50'

NOTES:

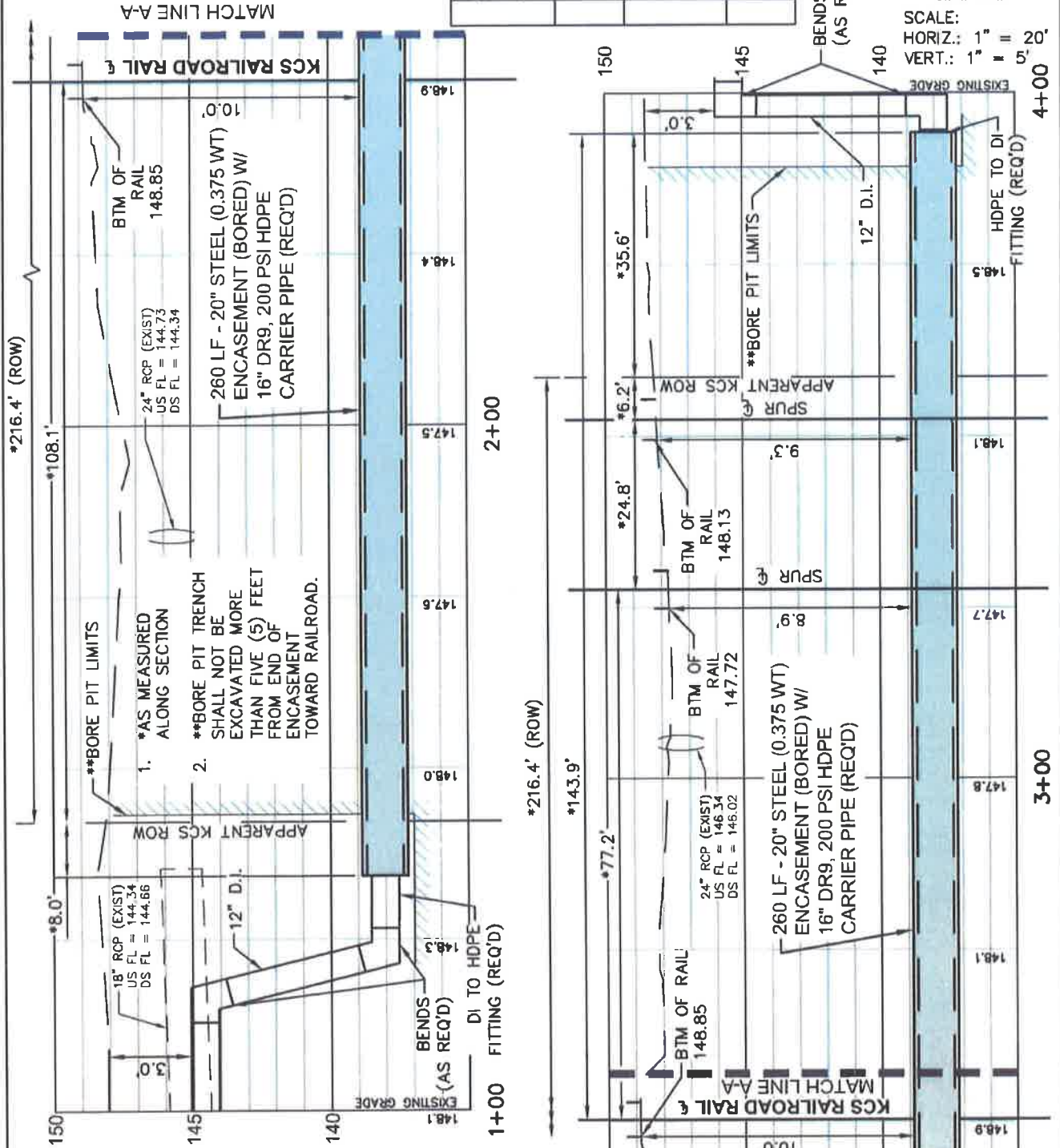
1. *240'± OF EXIST 6" WATER LINE (INSIDE RR ROW) SHALL BE ABANDONED IN PLACE, WHICH SHALL INCLUDE PUMPING EXIST WATER LINE WITH FLOWABLE FILL & SEALING ENDS WITH CONCRETE
2. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 1,057' SOUTH OF MP #68

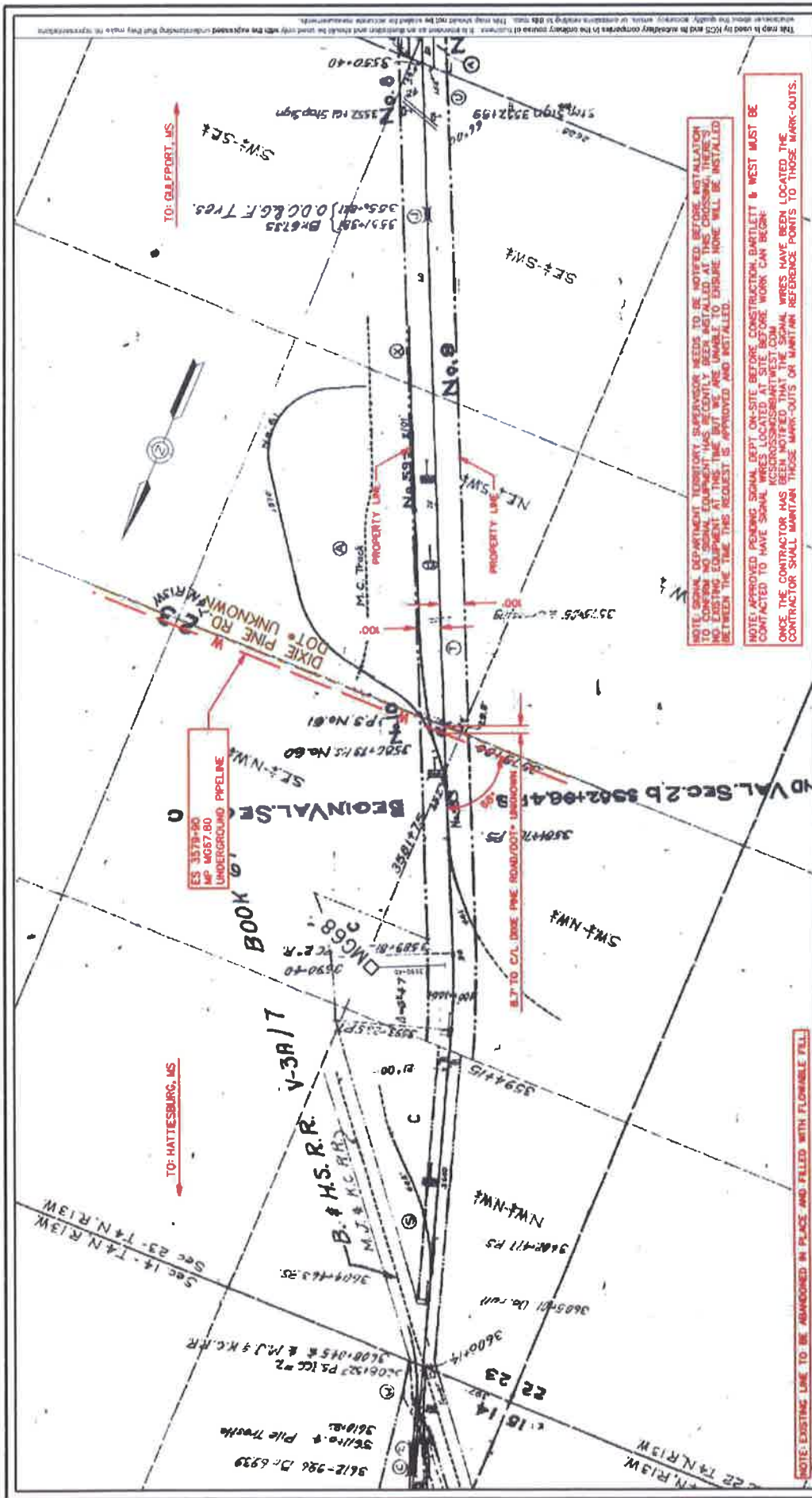
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		

Permit No.: _____



KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 1,057' SOUTH OF MP #68

[illegible]



SPECIFICATIONS:		INSTALLATION DETAILS	
CONTENTS	CASINO	DATE	APPROVED BY:
LENGTH OF PIPE ON RUN	217'	06-13-2017	JFB
OUTSIDE DIAMETER	36"	Drawn By:	TRF
PIPE MATERIAL	HDPE	Checked By:	TRF
WALL THICKNESS	1.75"	Company:	BARTLETT & WEST
WORKING PRESSURE	65 PSI	Sheet No:	1 of 1
TYPE OF JOINT	HEAT FUSION	Map #:	29025
COATING	3000 CC OF THIOCR	Scale:	1" = 400'

KANSAS CITY SOUTHERN
RAILWAY COMPANY

DATE: 06-13-2017
APPROVED BY: JFB
DRAWN BY: TRF
CHECKED BY: TRF
COMPANY: BARTLETT & WEST
SHEET NO: 1 OF 1
MAP #: 29025
SCALE: 1" = 400'

EXHIBIT "A"

PROPOSED UNDERGROUND
WATER PIPELINE CROSSING FOR
CITY OF HATTIESBURG
AT MP 657.80 GULFPORT SUBD.
HATTIESBURG, MS (31.295683, -89.275481)

17-3249

KCS FILE NO:

Date: 5/23/2017

File: 17-3249

CONTRACT SUMMARY and APPROVAL SHEET

Parties: KCS and City of Hattiesburg

Description: 16" HDPE Underground Water Line

Location: MP 067.78; Hattiesburg, MS

Term: Indefinitely, unless line interferes with Railway operations

Location Identification:

Subdivision: **Gulfport**

Drawing No. **SD-17-2-067.78**

Near DOT # **UNKNOWN**

Type of Line: **Water Line**

Run of Line: **Underground**

Width of KCSR ROW: **UNKNOWN**

Casing Diameter: **20"**

Casing Material: **Steel**

Length of Casing Pipe: **216'**

Method of Installation: **Dry Bore & Jack**

Depth: **10'**

Distance to Crossing: **8.7', 8.3' and 7.5' North from the centerline Dixie Pine Road at MP 067.78; Hattiesburg, MS**

JaKay Summary:

KCS RAILWAY DOES NOT MAINTAIN FLASHERS OR GATES AT DIXIE PINE ROAD AT MP 067.78, DOT #UNKNOWN. KCSR DOES NOT HAVE UG WIRES IN THIS AREA, HOWEVER WE THINK THE WATER LINE WILL NOT INTERFERE WITH ANY KCSR OPERATIONS BECAUSE OF THE FOLLOWING:

- A) THE UG LINE WILL BE AT LEAST 7.5" FROM THE CENTERLINE OF THE ROAD CROSSING.
- B) THE UG LINE WILL BE 10' BELOW RAIL AND 8.9' BELOW GROUND FOR THE ENTIRE ROW.
- C) THE UG LINE WILL BE INSTALLED USING DRY BORE & JACK.
- D) THE UG LINE WILL BE INSTALLED FROM OUTSIDE THE KCS ROW.

SPECIAL NOTE: SIGNAL DEPARTMENT TERRITORY SUPERVISOR NEEDS TO BE NOTIFIED BEFORE INSTALLATION TO CONFIRM NO SIGNAL EQUIPMENT HAS RECENTLY BEEN INSTALLED AT THIS CROSSING. THERE'S NO EXISTING EQUIPMENT AT THIS TIME, BUT WE ARE UNABLE TO ENSURE NONE WILL BE INSTALLED BETWEEN THE TIME THIS REQUEST IS APPROVED AND INSTALLED.

Recommendation:

- ☒ **APPROVED PENDING SIGNAL DEPT ON-SITE BEFORE CONSTRUCTION, BARTLETT & WEST MUST BE CONTACTED TO HAVE SIGNAL WIRES LOCATED AT SITE BEFORE WORK CAN BEGIN:**

kscs crossings@bartwest.com

ONCE THE CONTRACTOR HAS BEEN NOTIFIED THAT THE SIGNAL WIRES HAVE BEEN LOCATED, THE CONTRACTOR SHALL MAINTAIN THOSE MARK-OUTS OR MAINTAIN REFERENCE POINTS TO THOSE MARK-OUTS.

- ☐ **APPROVED (On-Site not required)**

- ☐ **DENIED**

Dates Reviewed and Approved:

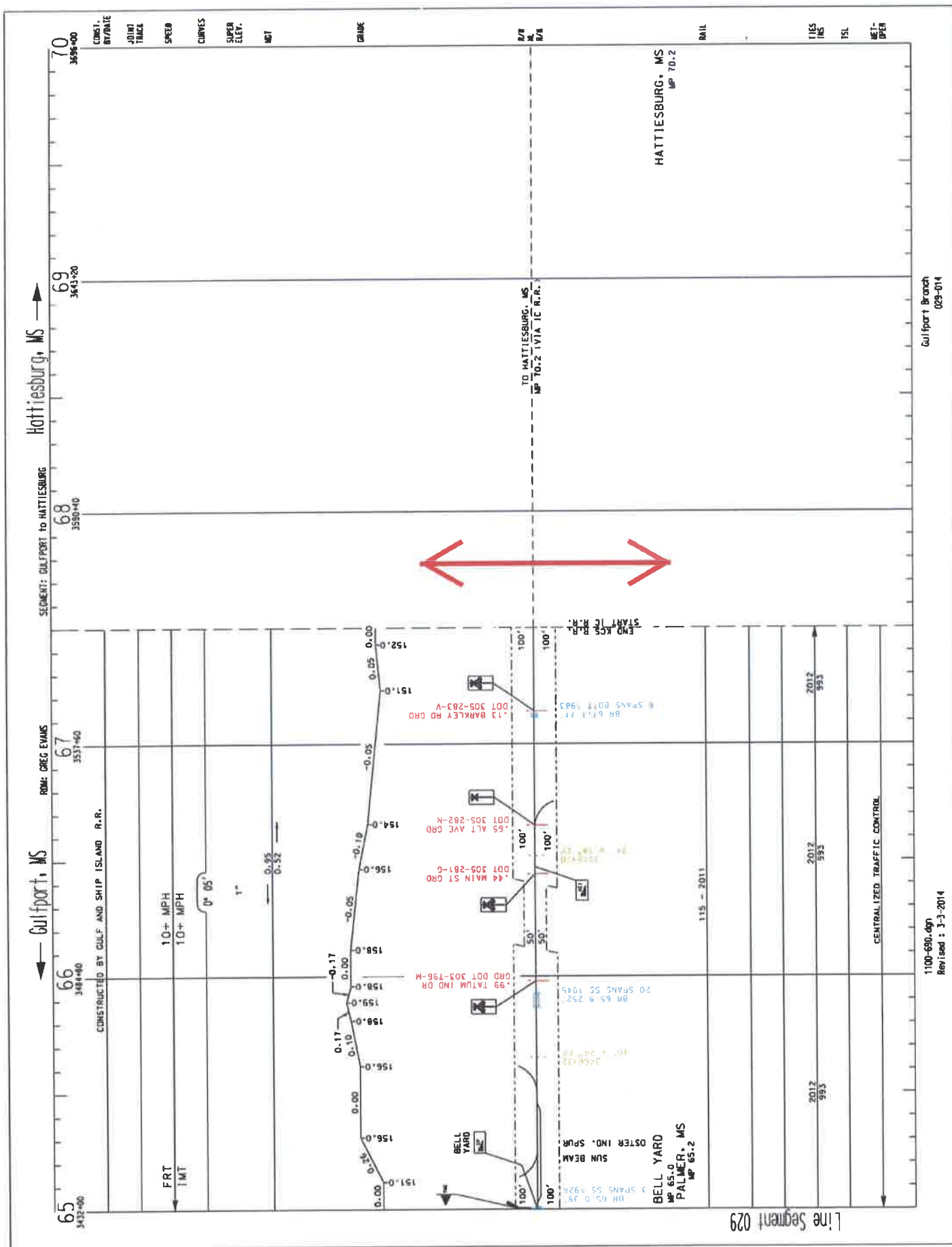
6/8/2017

Heather Van Hoecke
JaKay Signaling Inc.

6/12/2017

Carmen Wallace
Kansas City Southern Railway

JaKay Signaling Inc.
816-350-3001 ext. 100





2

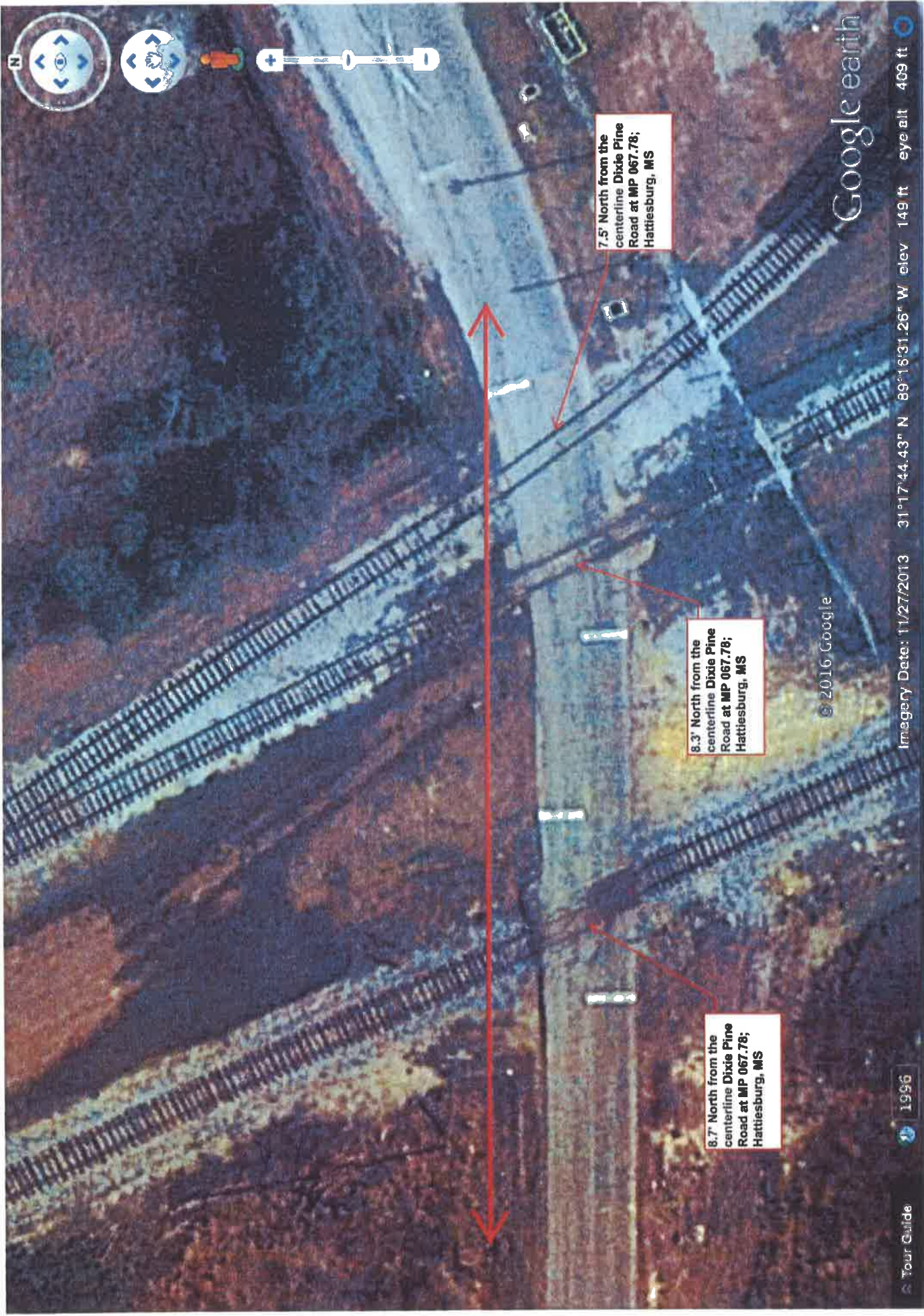
Google earth

© 2016 Google

Imagery Date: 11/27/2013 31°17'36.71" N 89°16'29.85" W elev 149 ft eye alt 7498 ft

1996

Tour Guide



Google earth

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Tour Guide

1996

Imagery Date: 11/27/2013

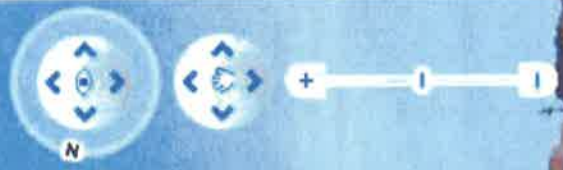
31°17'44.43" N 89°16'31.26" W elev 149 ft

eye alt 409 ft

7.5' North from the centerline Dixie Pine Road at MP 067.78; Hattiesburg, MS

8.3' North from the centerline Dixie Pine Road at MP 067.78; Hattiesburg, MS

8.7' North from the centerline Dixie Pine Road at MP 067.78; Hattiesburg, MS



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Google earth



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



Application for License to Install Pipeline or Wire Line Encroaching Over, Under or Parallel to KCS Tracks

Crossing - \$2,000 Processing Fee
Parallel - Call Sylvia Schmidt

Submit with non-refundable payable to:
JLL

Attn.: Sylvia Schmidt
4300 Amon Carter Blvd., Suite 100
Fort Worth, Texas 76155

Phone: (817) 230-2688 or Melissa Leal at (817) 230-2614
Email: sylvia.schmidt@am.jll.com or melissa.leal@am.jll.com

17-3250

1. Applicant Information:

Legal Name of the Owner of the Utility: City of Hattiesburg

Attn.: Lamar Rutland, P.E.

Mailing Address: P.O. Box 1898 City, State, Zip: Hattiesburg, MS 39403-1898

Phone: (601) 545-4640

Cell: _____

Email to whom agreement is to be sent: lrutland@hattiesburgms.com

Check One: ☐ Individual

☐ Company

☐ Partnership

☐ Corporation

☒ Municipality

☐ Other (Specify) _____

Who to contact in the event of engineering questions: Kyle D. Wallace, P.E.

Phone: (9601) 544-1821

Cell: (601) 310-7818

Email: kyle@sd-w.com

Proposed Installation Date(s): June 2017

If not constructed within one (1) year, an additional review fee may be charged.

2. Type of Encroachment (Crossing):

Check All That Apply: ☐ Overhead ☒ Underground ☐ Parallel

If Overhead, vertical clearance is _____ (in feet and inches) a 28' minimum is required from top of rail to bottom of overhead crossing point (maximum sag at 212°).

Existing Poles ☐ Yes ☐ No

Distance between poles/Distance from edge of nearest track: 1

If Underground Crossing, depth of casing/carrier pipe: 10.0 feet below base of rail and 6.0 3' feet below ground surface or bottom of ditches, whichever is deeper (if (a) casing is used: minimum 10' below base of rail and minimum 6' from natural ground surface or from bottom of ditches; (b) if casing is not used: minimum 10' below base of rail and minimum 10' from natural ground surface or from bottom of ditches).

If Underground Parallel, distance 55' measured at right angle from centerline of tracks to encroachment (parallel and minimum 25' feet away, then minimum 72" ground cover; parallel and greater than 25' away, then minimum ground cover of 60". If the request is within 50' of KCS right-of-way, utility line shall be at least 10' below the ground for the entire KCS right-of-way.

If an existing crossing is to be abandoned, see Section D - Abandonment on the Specific Requirements sheet.

**THE KANSAS CITY SOUTHERN RAILWAY COMPANY**427 West 12th Street
Kansas City, Missouri 64105-1403

3. Location: (provide all the information you can and identify two (2) markers of location information that can independently allow for verification of the wire line location in Section 3 and Section 4).

If crossing, relation to centerline of KCS Tracks at KCS Mile Post 66 + 2,415 feet

If parallel, beginning KCS Mile Post _____ + _____, ending KCS Mile Post + _____

Railroad Subdivision GULFPORT

If spur, distance from point of switch _____ feet

In or near City/Town/Village Hattiesburg, Parish/County Forrest, State MSSection 26 Township 4N Range 13W**4. Other Distances:**

If install is near a KCS bridge or culvert, distance from inside face of back wall on nearest KCS

Bridge: _____ Bridge MP: _____

Distance from centerline of nearest road crossing measured perpendicular to the rail line: 103'DOTD#: _____ (<http://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/Crossing.aspx>)Street Name: Old Airport Road**5. Angle of Crossing:**90 ° - 00 ° - 00 ° (if crossing track, not less than 45 degrees)**6. Wire Line Commodity:**☐ Telephone ☐ Power Line (Voltage _____) ☐ Other (Specify) _____☐ Fiber Optic – If underground, number of innerducts within casing pipe _____

If an innerduct will be left spare or empty, clearly identify type of facility that will be installed within each innerduct.

See Section A – General on the Specific Requirements sheet for standards used.

If encroachment is an overhead wire line, proceed to the end of this application and provide signature.

7. Pipeline Commodity:Commodity to be transmitted in the pipeline: WaterTransmitted by: ☐ Gravity ☒ Force ☐ Liquid
☐ Gas ☐ Steam ☐ Other (Please Specify _____)Type of Commodity: ☐ Flammable ☒ Non-Flammable ☐ Corrosive ☐ Toxic
☐ Environmental Hazard

If hazardous, toxic or corrosive material, give details: _____

See Section A – General on the Specific Requirements sheet for standards used.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



8. Pipe/Wire Information:	Carrier Pipe	Casing Pipe
Inside Diameter (nominal):	16"	20"
Wall Thickness:	1.778"	0.375"
Material:	HDPE	Steel
Minimum Yield Point of Material:		35 ksi
Type of Joint:	Heat Fusion	Welded
Maximum Operating Pressure in Pipeline:	N/A	N/A
Hydrostatic pressure at which carrier pipe will be tested before using:	150 psi	
Will carrier pipe have protective coating?	☐ Yes ☒ No If so, please provide type: _____	
Will carrier pipe be cathodically protected?	☐ Yes ☒ No	
Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.		

9. Casing Information:
Length of casing pipe 120 LF 340' (if casing pipe is vented, casing shall extend to right-of-way lines; if not vented, casing shall be a minimum 25' each side as measured at right angles to centerline of track).
Will casing pipe have protective coating? ☐ Yes ☒ No
If so, please provide type: _____
Will casing pipe be cathodically protected? ☐ Yes ☒ No
Cathodic protection must meet standards set by the current Report of Correlating Committee of Cathodic Protection.
See Section B – Casing and Section E – Signage on the Specific Requirements sheet for additional requirements.

10. Method of Installing Pipe/Wire: <u>Dry Bore and Jack & OPEN CUT</u>
Dry Bore and Jack, Conventional Dry Bore or Directional Drill up to 10". Wet boring or open cut trenching across tracks WILL NOT be permitted.
See Section C – Boring and Section F – Shoring on the Specific Requirements sheet for additional requirements.

11. Venting:
Will casing pipe be vented? ☐ Yes ☒ No Diameter: _____ (minimum 2")
Number of Vents: _____ Vent Height above ground surface: _____ (minimum 4')
Pipes carrying flammable contents must be vented. Vents are to be located at ends of casing off of KCS property and to be shown on drawing.



THE KANSAS CITY SOUTHERN RAILWAY COMPANY
427 West 12th Street
Kansas City, Missouri 64105-1403



12. Additional Fees:

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13. Existing Agreement? ☐ Yes ☒ No

*If replacing or repairing an existing line, a copy of the current permit agreement with KCS **must** be provided and accompany this application.*

14. Was this service requested by KCS? ☐ Yes ☒ No

If yes, who requested? _____ Phone #: _____

Is this Installation in conjunction with a track or track expansion project? ☐ Yes ☒ No

If yes, KCS contact name and phone number: _____ Phone#: _____

By signing below, applicant agrees to pay all fees associated with the installation of this utility.

Johnny L. DuPree, Mayor

Name of Applicant



Signature of Applicant

2-21-17

Date

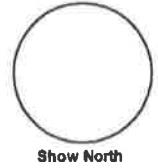
If application is not signed and dated by applicant, application will be returned.

RAILROAD PERMIT

Sheet No.: 1 of 5

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



GENERAL NOTES:

1. RAILROAD REPRESENTATIVE AND FLAGMAN SHALL BE PRESENT DURING ALL CONSTRUCTION CROSSING THE RAILROAD.
2. EXCAVATION SHALL NOT BE PERMITTED INSIDE RAILROAD RIGHT-OF-WAY.
3. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF THE RAILROADS PIPELINE OCCUPANCY SPECIFICATIONS.
4. PIPELINE AND CROSSING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.
5. BLASTING NOT PERMITTED.
6. WHERE THE WATER MAIN IS WITHIN 10 FEET OF A SEWER MAIN HORIZONTALLY, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18" FROM THE TOP OF THE SEWER MAIN, UNLESS OTHERWISE NOTED.
7. WORK FOR THIS PROJECT REQUIRES EXCAVATION IN THE IMMEDIATE VICINITY OF TRAFFIC AND ADJACENT PROPERTIES. THEREFORE, THE RISK OF A FAILURE OCCURRING DURING THE EXCAVATION REQUIRES THAT EXTREME CAUTION BE EXERCISED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING WHAT BRACING, SHORING OR GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE AND PROTECT THE PERSONS WORKING NEAR THE EXCAVATION, THE PUBLIC THAT MAY BE ABOVE THE EXCAVATION, OR ANY STRUCTURE ADJACENT TO THE EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES INCLUDING THE MATERIALS AND LABOR FOR DESIGNING, DRAWING AND CONSTRUCTING THE FACILITY SHALL BE INCLUDED IN THE BID PRICE FOR CONTRACT ITEMS.

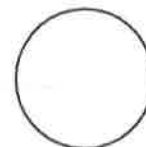
**KANSAS CITY SOUTHERN RAILROAD
GENERAL NOTES**

RAILROAD PERMIT

Sheet No.: 2 of 5

Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



Show North

LINETYPE & SYMBOLS LEGEND:

---	CENTER LINE
	RAILROAD
---	APPARENT KANSAS CITY SOUTHERN RAILROAD ROW
○	FENCE (EXIST)
•FID	FIBER OPTIC INDICATOR POST (EXIST)
FOB	FIBER OPTIC PULL BOX (EXIST)
⊗	FIRE HYDRANT (EXIST)
•GID	GAS INDICATOR POST (EXIST)
---G---	GAS LINE (EXIST)
GM	GAS METER (EXIST)
⊗	GAS VALVE (EXIST)
•GT	GATE POST (EXIST)
⊗	LIGHT ON POLE (EXIST)
—P—P—P—	OVERHEAD UTILITY LINES (EXIST)
—T—T—T—	OVERHEAD UTILITY LINES (EXIST)
Y	POLE GUY WIRE (EXIST)
—P—	PROPERTY LINE (EXIST)
---FM---	SAN SWR FORCE MAIN (EXIST)
---SS---	SAN SWR LINE (EXIST)
⊗	SAN SWR PUMP STATION (EXIST)
⊗	SIGN (EXIST)
⊗	SIGNAL (EXIST)
⊗	TREE LINE (EXIST)
---	DITCH (EXIST)
---FO---	UNDERGROUND FIBER OPTIC LINE (EXIST)
•PP	UTILITY POLE (EXIST)
---W---	WATER LINE (EXIST)
WM	WATER METER (EXIST)
⊗	WATER VALVE (EXIST)
⊗	WATER VALVE (REQ'D)
▷	REDUCING FITTING (REQ'D)
⊗	FIRE HYDRANT (REQ'D)
---W---	WATER LINE (REQ'D)

ABBREVIATIONS LEGEND:

APPURT	APPURTENANCES
BLDG	BUILDING
BTM	BOTTOM
CL	CENTERLINE
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
DI	DUCTILE IRON PIPE
DR	DIAMETER RATIO
EOP	EDGE OF PAVEMENT
EXIST	EXISTING
HDPE	HIGH DENSITY POLYETHYLENE
KCS	KANSAS CITY SOUTHERN
LF	LINEAR FEET
PL	PROPERTY LINE
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
ROW	RIGHT OF WAY
RR	RAILROAD
SAN	SANITARY
SEW	SEWER
W/	WITH
WT	WALL THICKNESS
XING	CROSSING

KANSAS CITY SOUTHERN RAILROAD ABBREVIATIONS & LEGEND

RAILROAD PERMIT

Sheet No.: 3 of 5

Permit No.: _____

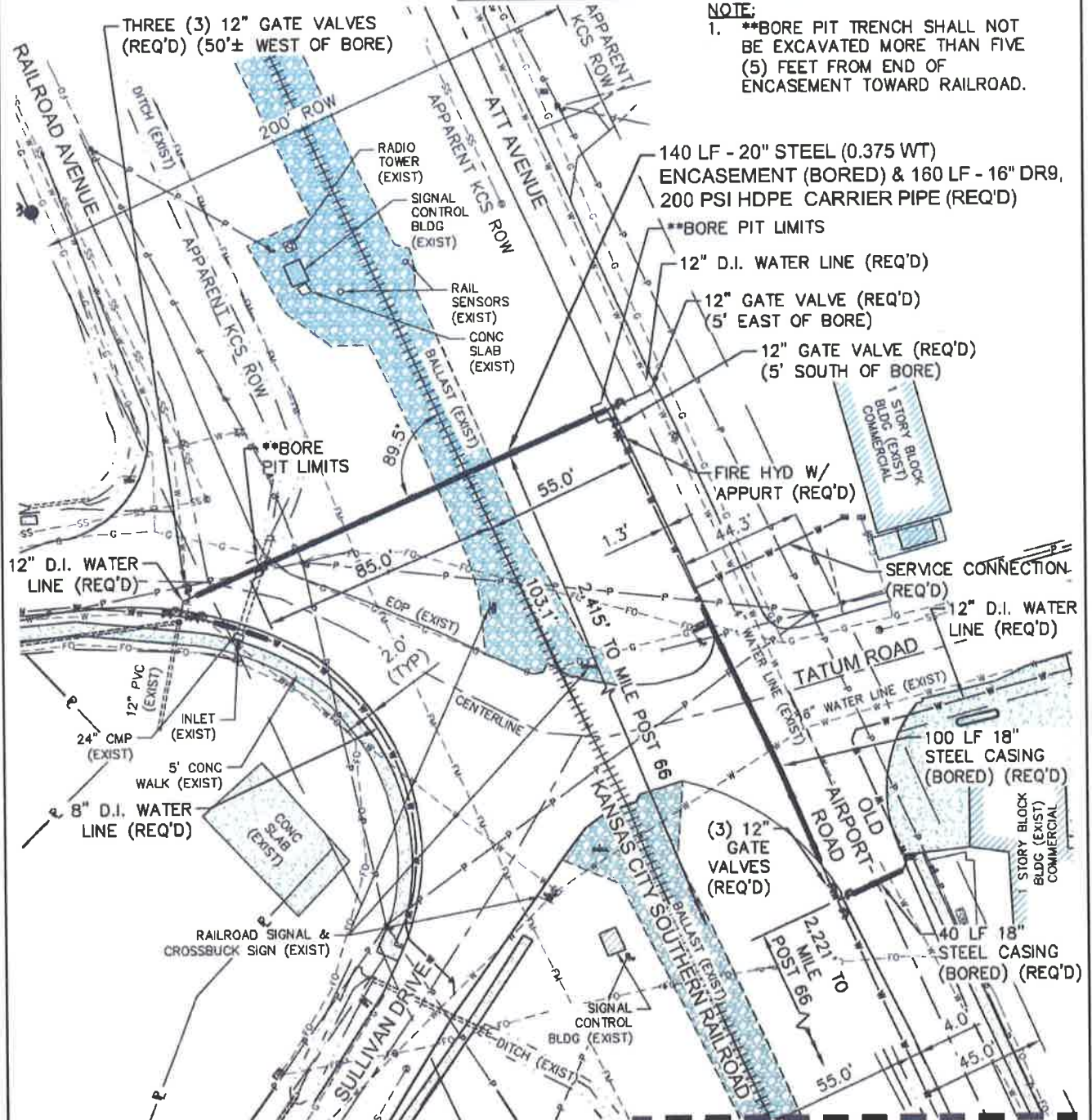
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



SCALE: 1" = 50'

NOTE:

1. **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



**KANSAS CITY SOUTHERN RAILROAD PIPE BORE:
2,415' NORTH OF MP #66**

MATCH
LINE C-C

RAILROAD PERMIT

Sheet No.: 4 of 5

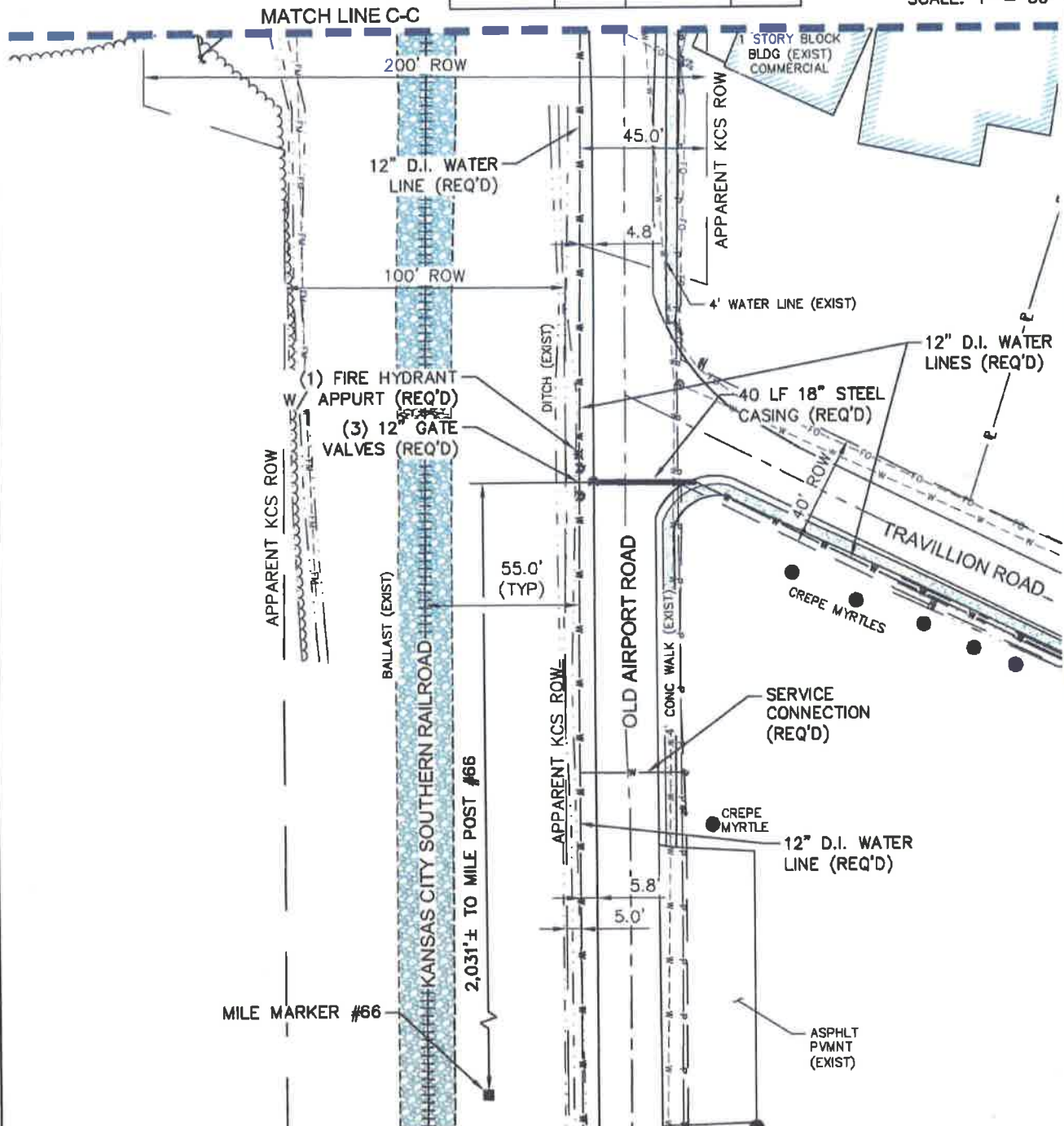
Permit No.: _____

REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	BT		
05/17/17	BT		



Show North

SCALE: 1" = 50'



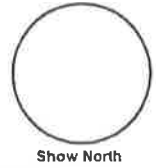
**KANSAS CITY SOUTHERN RAILROAD PIPE BORE:
2,415' NORTH OF MP #66**

RAILROAD PERMIT

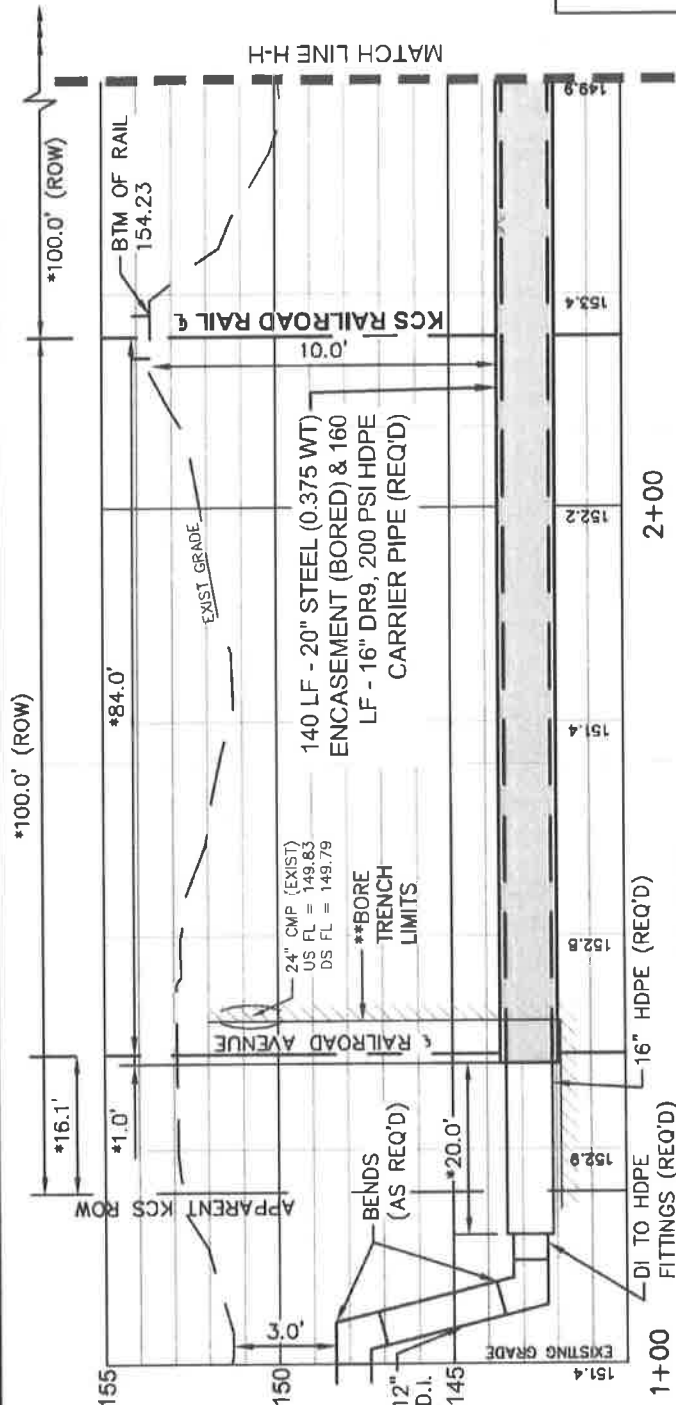
Sheet No.: 5 of 5

Permit No.: _____

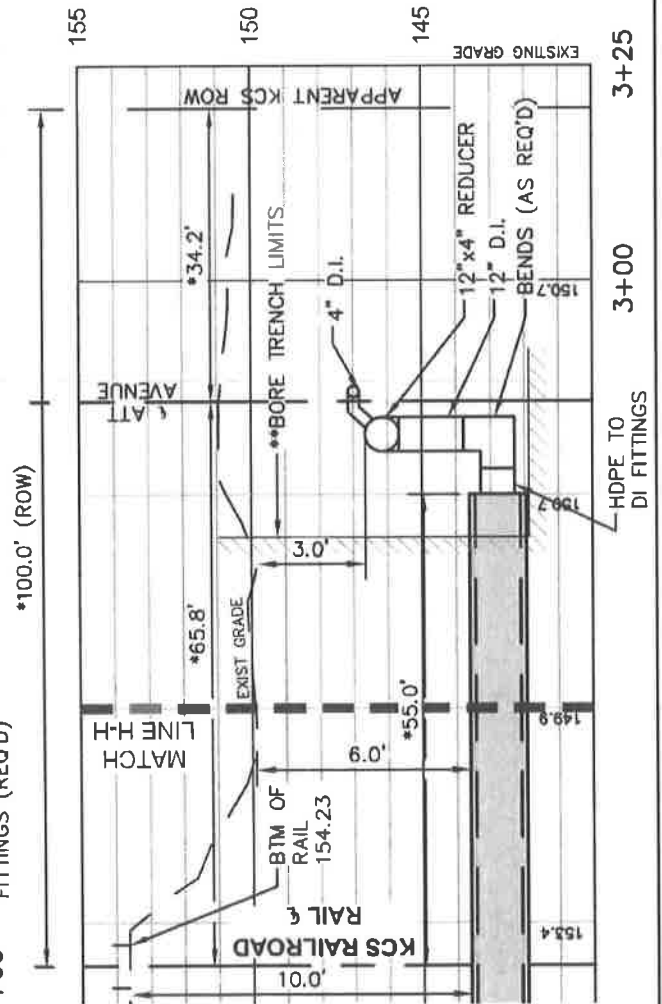
REVISIONS			
APPLICANT		MDOT	
DATE	BY	DATE	BY
05/08/17	RES		
05/17/17	RES		



SCALE:
HORIZ.: 1" = 20'
VERT.: 1" = 5'



- NOTES:
- *AS MEASURED ALONG SECTION
 - **BORE PIT TRENCH SHALL NOT BE EXCAVATED MORE THAN FIVE (5) FEET FROM END OF ENCASEMENT TOWARD RAILROAD.



KANSAS CITY SOUTHERN RAILROAD PIPE BORE: 2,415' NORTH OF MP #66

RANGE 13 WEST



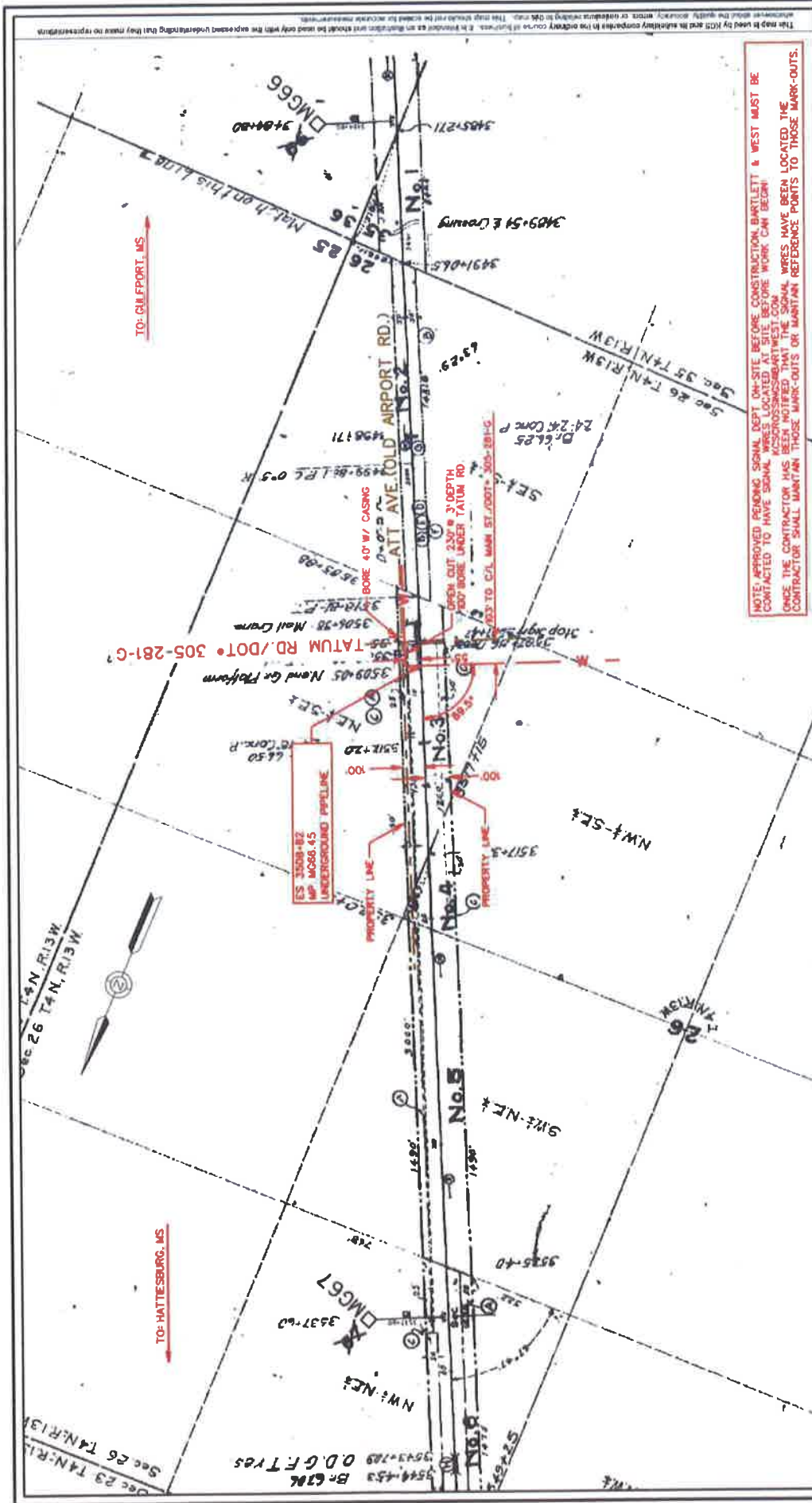
GRAPHIC SCALE

VICINITY MAP		
NO.	DATE	DESCRIPTION

COMPREHENSIVE WATER IMPROVEMENTS - PHASE II
CITY OF HATTIESBURG
FORREST COUNTY, MISSISSIPPI



Drawn by: JES
Checked by: JES
Date: 12/15/2016
Drawing No: 1273-W007
Sheet No: 3



NOTE: APPROVED PENDING SIGNAL DEPT. ON-SITE BEFORE CONSTRUCTION. BARTLETT & WEST MUST BE CONTACTED TO HAVE SIGNAL Wires LOCATED AT SITE BEFORE WORK CAN BEGIN. WCS@ROSSINGBARTLETT.COM

SPECIFICATIONS:[illegible]KANSAS CITY SOUTHERN
RAILWAY COMPANY

Date:	06-22-2017	APPROVED BY:
Drawn By:	JFB	
Checked By:	TRF	
Company:	BARTLETT & WEST	
Sheet No:	1 of 1	Map # 290
Scale:	1" = 400'	KCS FILE NO

17-3250

EXHIBIT "A"
PROPOSED UNDERGROUND
WATER PIPELINE CROSSING FOR
CITY OF HATTIESBURG
AT MP MG66.45 GULFPORT SUBD.
HATTIESBURG, MS (31.277967, -89.286900)

Date: 5/24/2017

File: 17-3250

CONTRACT SUMMARY and APPROVAL SHEET

Parties: KCS and City of Hattiesburg

Description: 16" HDPE Underground Water Line

Location: MP 066.53; Hattiesburg, MS

Term: Indefinitely, unless line interferes with Railway operations

Location Identification:

Subdivision: **Gulfport**

Drawing No. **SD-17-2-066.53**

Near DOT # **305-281 G**

Type of Line: **Water Line**

Run of Line: **Underground & Parallel**

Width of KCSR ROW: **200'**

Casing Diameter: **20"**

Casing Material: **Steel**

Length of Casing Pipe: **200'**

Method of Installation: **Dry Bore & Jack**

Depth: **10'**

Distance to Crossing: **103' North from the centerline of Tatum Road at MP 066.52 and parallel for approximately 160' on the eastern side of the rail at 55' from the tracks; Hattiesburg, MS**

JaKay Summary:

KCS RAILWAY MAINTAINS FLASHERS AT TATUM ROAD AT MP 066.52, DOT #305-281 G. KCSR HAS UG WIRES IN THIS AREA, HOWEVER WE THINK THE WATER LINE WILL NOT INTERFERE WITH ANY KCSR OPERATIONS BECAUSE OF THE FOLLOWING:

- A) THE UG LINE WILL BE 103' FROM THE CENTERLINE OF THE ROAD CROSSING.
- B) THE UG LINE WILL BE 10' BELOW RAIL AND 6' BELOW GROUND FOR THE ENTIRE ROW.
- C) THE UG LINE WILL BE INSTALLED USING DRY BORE & JACK UNDER THE TRACK AND WITH OPEN CUT FOR THE PARALLEL PORTION AT 3' DEEP.
- D) THE PARALLEL PORTION WILL BE 55' FROM THE TRACKS FOR THE ENTIRE 160' PARALLEL RUN ON THE KCS ROW.

Recommendation:

- ☒ **APPROVED PENDING SIGNAL DEPT ON-SITE BEFORE CONSTRUCTION, BARTLETT & WEST MUST BE CONTACTED TO HAVE SIGNAL WIRES LOCATED AT SITE BEFORE WORK CAN BEGIN:**

kcscrossings@bartwest.com

ONCE THE CONTRACTOR HAS BEEN NOTIFIED THAT THE SIGNAL WIRES HAVE BEEN LOCATED, THE CONTRACTOR SHALL MAINTAIN THOSE MARK-OUTS OR MAINTAIN REFERENCE POINTS TO THOSE MARK-OUTS.

- ☐ **APPROVED (On-Site not required)**

- ☐ **DENIED**

Dates Reviewed and Approved:

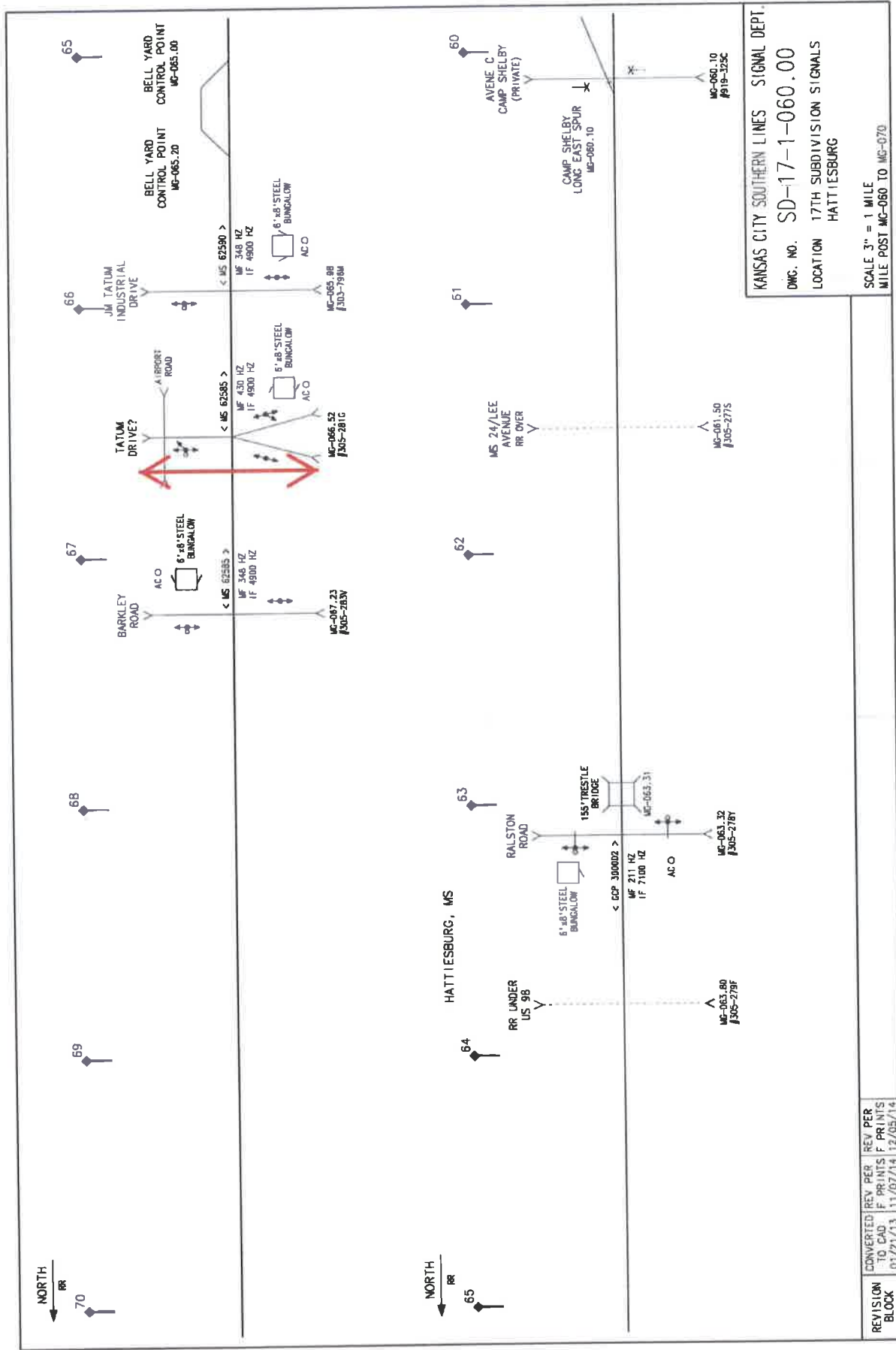
7/7/2017

Heather Van Hoecke
JaKay Signaling Inc.

6/14/2017

Carmen Wallace
Kansas City Southern Railway

JaKay Signaling Inc.
816-350-3001 ext. 100



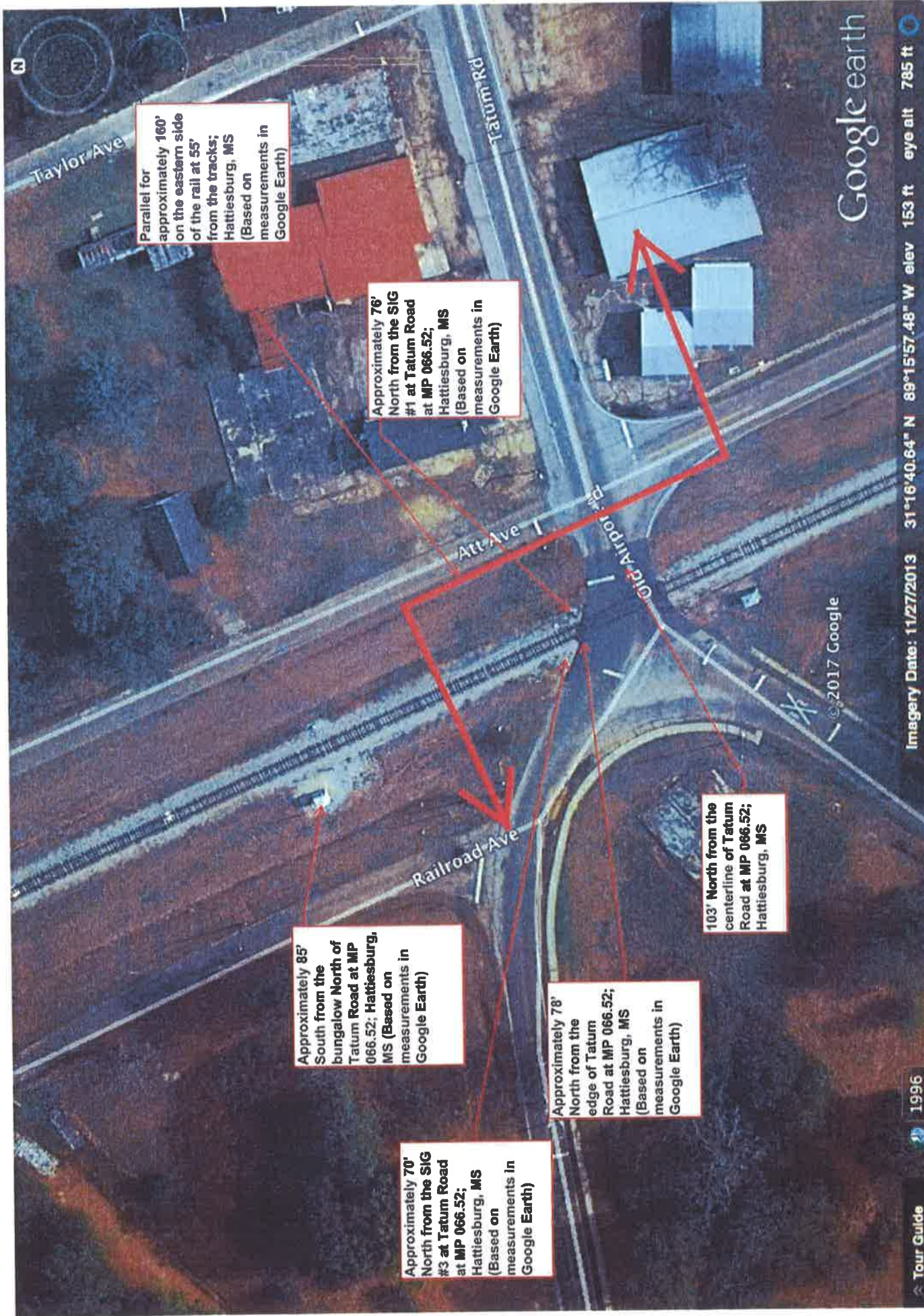


© 2017 Google

Imagery Date: 11/27/2013 31°16'38.29" N 89°15'54.97" W elev 151 ft eye alt 9184 ft

1996

Tour Guide



Parallel for approximately 160' on the eastern side of the rail at 55' from the tracks; Hattiesburg, MS (Based on measurements in Google Earth)

Approximately 76' North from the SIG #1 at Tatum Road at MP 066.52; Hattiesburg, MS (Based on measurements in Google Earth)

Approximately 85' South from the bungalow North of Tatum Road at MP 066.52; Hattiesburg, MS (Based on measurements in Google Earth)

Approximately 70' North from the SIG #3 at Tatum Road at MP 066.52; Hattiesburg, MS (Based on measurements in Google Earth)

Approximately 78' North from the edge of Tatum Road at MP 066.52; Hattiesburg, MS (Based on measurements in Google Earth)

103' North from the centerline of Tatum Road at MP 066.52; Hattiesburg, MS

Google earth

© 2017 Google

Imagery Date: 11/27/2013 31°16'40.64" N 89°15'57.48" W elev 153 ft eye alt 785 ft

1996

Tour Guide

Old Airport Rd



Exit Street View

© 2017 Google
© 2017 Google

Google earth

[Report a problem](#)

[Tour Guide](#)

Imagery Date: 3/2014 31°16'39.01" N 89°15'56.08" W elev 152 ft eye alt 160 ft



ADDENDUM No. 5
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL
AREAS
CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to July 20, 2017. Bid time, location, etc. shall remain unchanged.

by:  **SHOWS: DEARMAN & WAITS, INC.**

Kyle Wallace, P.E.
6/30/17

CITY OF HATTIESBURG
by:  _____
Kermas Eaton, City Clerk

Dated this 30th day of June, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: L. B. Developers, Inc.

Signature: 

Title: P.M.

ADDENDUM No. 4
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL
AREAS
CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

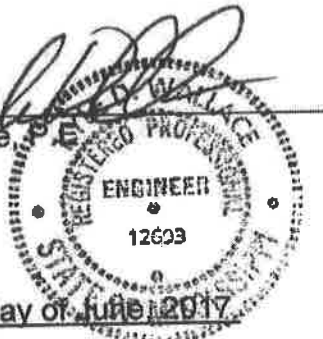
CHANGE No. 1 - The bid date of the project is changed to July 6, 2017. Bid time, location, etc. shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

CITY OF HATTIESBURG

by:

Kyle Wallace, S.E.



by:

Kermas Eaton, City Clerk

Dated this 19th day of June 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C.B. Developers, Inc.

Signature: _____

Title: P.M.

ADDENDUM No. 3
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL
AREAS
CITY of HATTIESBURG

The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

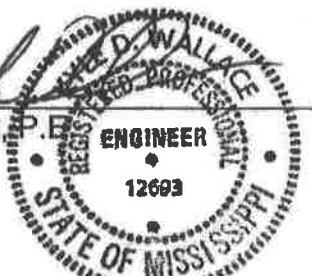
CHANGE No. 1 - The bid date of the project is changed to June 22, 2017. Bid time, location, etc. shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

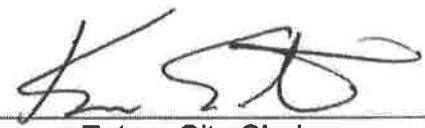
CITY OF HATTIESBURG

by:



Kyle Wallace, P.E.

ENGINEER
12693
STATE OF MISSISSIPPI

by:



Kermas Eaton, City Clerk

Dated this 5th day of June, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: L. B. Developers, Inc.

Signature: 

Title: P.M.

ADDENDUM No. 2
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL
AREAS
CITY of HATTIESBURG

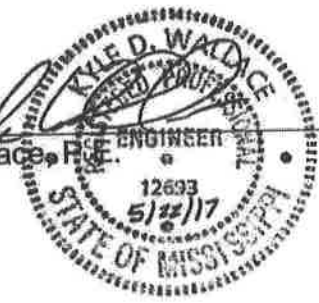
The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to June 8, 2017. Bid time, location, etc. shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

CITY OF HATTIESBURG

by:


Kyle Wallace, P.E.


by:


Kermas Eaton, City Clerk

Dated this 22th day of May, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: C. B. Developers, Inc.

Signature: 

Title: P.M.

ADDENDUM No. 1
to the
CONTRACT DOCUMENTS and SPECIFICATIONS
for the
COMSWIP WATER IMPROVEMENTS - PHASE II PALMERS CROSSING AND IRENE CHAPEL
AREAS
CITY of HATTIESBURG

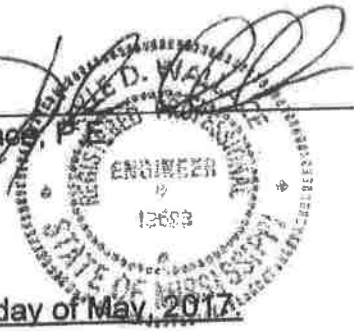
The following attached modifications are to be made to the specifications and contract documents for the above captioned project:

CHANGE No. 1 - The bid date of the project is changed to May 25, 2017. Bid time, location, etc. shall remain unchanged.

SHOWS, DEARMAN & WAITS, INC.

by:

Kyle Wallace, P.E.



CITY OF HATTIESBURG

by:

Kermas Eaton, City Clerk

Dated this 8th day of May, 2017.

The receipt of this Addendum shall be indicated by signature on the line below.
A signed copy of the Addendum shall accompany the Bid Proposal.

Contractor: L.B. Developers, Inc.

Signature: _____

Title: P.M.

SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

**COMPREHENSIVE WATER IMPROVEMENTS PHASE II
PALMERS CROSSING AND IRENE CHAPEL**

FOR THE

**CITY OF HATTIESBURG
FORREST COUNTY
MISSISSIPPI**

JANUARY 2017



PREPARED BY:

**SHOWS, DEARMAN & WAITS, INC.
CONSULTING ENGINEERS
301 SECOND AVENUE
HATTIESBURG, MISSISSIPPI
(601) 544-1821**

INDEX

ADVERTISEMENTS FOR BIDS.....	1
INFORMATION FOR BIDDERS.....	2-4
PROPOSAL FORM.....	5-9
BID BOND.....	10-11
CONTRACT AGREEMENT.....	12-14
PAYMENT & PERFORMANCE BOND.....	15-16
NOTICE OF AWARD.....	17
NOTICE TO PROCEED.....	18
GENERAL CONDITIONS.....	19-56
MEASUREMENT AND PAYMENT.....	57-60
TECHNICAL SPECIFICATIONS:	
Water Systems.....	61-79
Restoration of Roads, Driveways, Fences, Lawns & Other Grassed Areas.....	80-84
Seeding and Sodding.....	85-89
Fire Hydrant.....	90-92



ADVERTISEMENT FOR BIDS

NOTICE is hereby given that the City Clerk of the City of Hattiesburg, Mississippi, will receive sealed bids until 10:00 a.m. on May 11, 2017 in the City Clerk's Office in the City Hall at 200 Forrest Street of said City for furnishing the City's requirements for the following:

COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL HATTIESBURG, MISSISSIPPI

Plans, Specifications and proposal forms may be obtained from Shows, Dearman & Waits, Inc., 301 Second Avenue, Hattiesburg, Mississippi, 39401, upon deposit of \$150.00, non-refundable. All bids must be accompanied by bid security equal to 5% of the amount of the bid, in the form of a certified check, cashier's check or a bid bond written by a company properly licensed in Mississippi.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner EXACTLY as follows:

BID:

COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL HATTIESBURG, MISSISSIPPI

No bid may be withdrawn for a period of sixty (60) days. The lowest and best proposal received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated and Amended, and other applicable State law; but the Council reserves the right to reject any or all proposals received and to waive informalities.

PUBLISHED by Order of the Council on the ____ day of _____ A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: _____
Kermas Eaton, City Clerk

Publish on March 31, 2017 and April 7, 2017
City of Hattiesburg
Return PROOF to City Clerk's Office
PO Box 1898
Hattiesburg, MS 39403-1898

INFORMATION FOR BIDDERS

BIDS will be received by the CITY OF HATTIESBURG, MISSISSIPPI herein called the "OWNER", at City Hall until 10:00 a.m. on May 11, 2017, and then at said office publicly opened and read aloud.

Each BID must be submitted in sealed envelope, addressed to City of Hattiesburg. Each sealed envelope containing a BID must be plainly marked on the outside as BID for **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL** and the envelope should bear on the outside the BIDDER'S name, address, and license number if applicable, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed addressed to the Owner at P. O. Box 1898, Hattiesburg, MS 39403

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a BID BOND payable to the OWNER for five percent (5%) of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsive, responsible

BIDDERS. When the Agreement is executed the BONDS of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the PAYMENT BOND and PERFORMANCE BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a BID BOND.

A PERFORMANCE BOND and a PAYMENT BOND, each in the amount of 100 percent (100%) of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a certified and effective dated copy of their Power of Attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the PERFORMANCE BOND and PAYMENT BOND within ten (10) calendar days from the date when NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw the signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period; the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible BIDDER.

All applicable Laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

FURTHER, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when required to do so by the OWNER.

The ENGINEER is SHOWS, DEARMAN & WAITS, INC. The address of the ENGINEER is 301 2nd Avenue, Hattiesburg, MS 39401.

PROPOSAL FORM

I (we) agree to begin work within (10) calendar days after the issuance of Work Order, and to complete the work within 180 calendar days thereafter. The undersigned further agrees that the unit bid price quoted includes all items of work required or necessary for the accomplishment of the projected work. BIDDERS agree to perform all the work described in the CONTRACT DOCUMENTS for the following unit bid prices:

Proposal			
Comprehensive Water Improvements - Phase II			
Palmers Crossing and Irene Chapel Areas - City of Hattiesburg			
Item	Description	Unit	Quantity
	Water Pipe Items		
1	4" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	260
2	6" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	280
3	8" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	590
4	12" Class 350 Ductile Iron Water Pipe (Open Cut)	Lin. Ft.	27,159
5	12" Class 350 Ductile Iron Water Pipe (Bored - No Casing)	Lin. Ft.	1,090
6	16" 200 PSI, DR9, HDPE (Open Cut) (Incl. adapter fittings)	Lin. Ft.	620
7	16" 200 PSI, DR9, HDPE (Direction Bore) (Incl. adapter fittings)	Lin. Ft.	460
	Casing Items		
8	18" Steel Casing, 0.25" WT (Open Cut)	Lin. Ft.	20
9	14" Steel Casing, 0.25" WT (Bored)	Lin. Ft.	40
10	18" Steel Casing, 0.25" WT (Bored)	Lin. Ft.	610
11	20" Steel Casing, 0.375" WT (Bored - Railroad)	Lin. Ft.	580

Connection Items				
12	Connection: Proposed 12" to Existing 12" (Straight Connection w/ fittings)	Each	2	
13	Connection: Proposed 12" to Existing 12" (Hot Tap w/ Valve Assembly & other fittings)	Each	3	
14	Connection: Proposed 12" to Proposed 12" (Tee & other fittings)	Each	5	
15	Connection: Proposed 12" to Proposed 12" & 8" (Tee & other fittings)	Each	1	
16	Connection: Proposed 12" to Proposed 8" (Tee & other fittings)	Each	2	
17	Connection: Proposed 12" to Proposed 12" & Existing 8" & 6" (Tees & other fittings)	Each	1	
18	Connection: Proposed 12" to Proposed 12" & Existing 4" (Tee & other fittings)	Each	2	
19	Connection: Proposed 12" to Existing 6" (Tee & other fittings)	Each	10	
20	Connection: Proposed 12" to Existing 6" & 4" (Tees & other fittings)	Each	1	
21	Connection: Proposed 12" to Existing 6" & 4" (Cross & other fittings)	Each	1	
22	Connection: Proposed 12" to Existing 4" (Tee & other fittings)	Each	12	
23	Connection: Proposed 8" to Existing 12" (Hot Tap w/ Valve Assembly & other fittings)	Each	1	
24	Connection: Proposed 8" to Existing 6" (Tee & other fittings)	Each	1	
25	Connection: Proposed 8" to Existing 6" & 4" (Tees & other fittings)	Each	1	
Valve Items				
26	4" Gate Valve	Each	9	
27	6" Gate Valve	Each	14	
28	8" Gate Valve	Each	4	
29	12" Gate Valve	Each	66	

	Fire Protection Items				
30	3 Way Fire Hydrant w/ Appurtenances (Incl. Tee, Valve, Hydrant, Brass Tag, Pipe, & other fittings)	Each	42		
31	6" Fire Suppression System Connection (Incl. Tee, Valve, Pipe, Disconnection of Existing System, Connection to Existing Fire System, etc.)	Each	1		
	Service Items				
32	Residential Service Tap (All Sizes) (Incl: Open Cut Service Tubing, Tapping Saddle, Corp Stop, etc)	Each	99		
33	Commercial Service Tap (All Sizes) (Incl: Open Cut Service Tubing, Tapping Saddle, Corp Stop, etc)	Each	17		
34	Service Tubing (Bored) (All Sizes)	LF	1,585		
35	Residential Meter (Incl: Meter, Meter Box, City Fees, etc)	Each	15		
	Removal Items				
36	Removal of Fire Hydrant and Appurtenances	Each	24		
37	Abandonment of Exist. Water Lines with flowable Fill	LF	600		
38	Remove and Reset Existing Storm Sewer Culverts (All Sizes)	Lump Sum	1		
	Miscellaneous Construction Items				
39	Select Fill Material (Class 9, Group C), LVM for Gravel Driveway Repair	CY	35		
40	Asphalt Pavement Repair (All Depths)	TON	450		
41	Concrete Pavement Repair (All Depths)	SY	338		
42	Concrete Curb and Gutter Repair (Match Existing in kind)	LF	25		
43	Temporary Erosion Control	Lump Sum	1		

44	Grassing	Lump Sum	1	
45	Maintenance of Traffic	Lump Sum	1	
46	Mobilization	Lump Sum	1	
				Project Total:

Note: All materials and components shall be a product of the U.S.A.

If within thirty (30) days of the scheduled closing time for receipt of bids, this Proposal is accepted, the undersigned will execute a formal contract within ten (10) days after official notification thereof, will deliver a surety bond for the faithful performance of this contract, and will complete the work within the time specified from the date of execution of the contract.

L.B. Developers, Inc.

By: 

1716 Evelyn Gandy Pkwy
Address Hattiesburg, MS 39401



BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, C.B. Developers, Inc.
as Principal, and Arch Insurance Company
as Surety, are hereby held and firmly bound unto City of Hattiesburg as Owner, in the penal sum
of Five Percent of Amount Bid DOLLARS
(5%) for the payment of which, well and truly to be made, we
hereby jointly and severally bind ourselves, successors and assigns. Signed, this
20th day of July, 2017. The condition of the above obligation is
such that whereas the Principal has submitted to City of Hattiesburg
a certain BID, attached hereto and hereby made a part hereof to enter
into a contract in writing for the Comprehensive Water Improvements- Phase II, Palmers
Crossing and Irene Chapel

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID.

Then this obligation, shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way be impaired or affected by an extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

C.B. Developers, Inc.

By: _____

(Principal)

(L.S.)

Arch Insurance Company

(Surety)

By: _____

Brody Eric Buckley

Attorney-in-Fact

Resident MS Agent/Bottrell Insurance

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we, the under signed,
_____ Principal, and _____ as Surety, are hereby
held and firmly bound unto _____ as Owner in the penal sum of 5%
(Five Percent) for payment of which, well and truly to be made, we hereby jointly and
severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20_____.

The Condition of the above obligation is such that whereas the Principal has submitted to
a certain BID, attached hereto and hereby made a part hereof to enter into a contract in
writing, for the following project:

COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL HATTIESBURG, MISSISSIPPI

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in
the Form of Contract attached hereto (properly completed in accordance with said BID)
and shall furnish a BOND for his faithful performance of said contract, and for the
payment of all persons performing labor or furnishing materials in connection therewith,
and shall in all other respects perform the agreement created by the acceptance of said
BID, then this obligation shall be void, otherwise the same shall remain in force and effect;
it being expressly understood and agreed that the liability of the Surety for any and all
claims hereunder shall, in no event, exceed the penal amount of this obligation as herein
stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said
Surety and its BOND shall be in no way impaired or affected by any extension of the time
within which the OWNER may accept such BID; and said Surety does hereby waive notice
of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and
seals, and such of them as are corporations have caused their corporate seals to be hereto
affixed and these presents to be signed by their proper officers, the day and year set forth
above.

_____(L.S.)
PRINCIPAL

SURETY

BY: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasure Department's most current line (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Brody Eric Buckley

its true and lawful Attorney(s) in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations.

Surety Bond Number: Bid Bond

Principal: C.B. Developers, Inc.

Obligee: City of Hattiesburg

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this 20th day of July, 2017.

Attested and Certified

Arch Insurance Company

Patrick K. Nails

Patrick K. Nails, Secretary



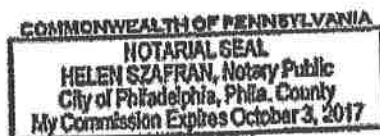
David M. Finkelstein

David M. Finkelstein, Executive Vice President

STATE OF PENNSYLVANIA SS

COUNTY OF PHILADELPHIA SS

I, Helen Szafran, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.



Helen Szafran

Helen Szafran, Notary Public
My commission expires 10/03/2017

CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated July 20, 2017 on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this 20th day of July, 2017.

Patrick K. Nails

Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance – Surety Division
3 Parkway, Suite 1500
Philadelphia, PA 19102



C. B. DEVELOPERS, INC.
938 OLD RIFLE RANGE RD.
PETAL, MS 39465

Ph. 601-582-1600
Ph. 601-583-0005
Fax 601-583-0009

Cbcland@cs.com

STATE OF MISSISSIPPI
FORREST COUNTY

RESOLUTION

BE IT RESOLVED THAT Mack Lister IS HEREBY AUTHORIZED, EMPOWERED AND DIRECTED TO EXECUTE FOR AND ON BEHALF OF C.B. Developers, Inc., a corporation, any and all bid and job specific documents including but not limited to price sheets, change orders, certification, addendum, contracts, agreements, and official letters.

C. B. DEVELOPERS, INC.



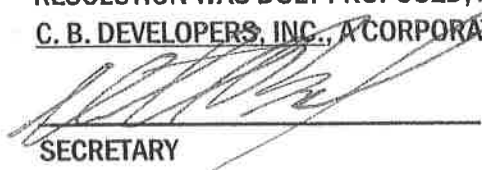
BY: SHERRY BRELAND
TITLE: PRESIDENT

C. B. DEVELOPERS, INC.



BY: CLIFF BRELAND
TITLE: VICE-PRESIDENT

I, Cliff Breland, as secretary of C. B. DEVELOPERS, INC. DO HEREBY CERTIFY THAT THE ABOVE RESOLUTION WAS DULY PROPOSED, ADOPTED, AND RESOLVED, DURING A SPECIAL MEETING OF C. B. DEVELOPERS, INC., A CORPORATION, ON THIS THE 18TH DAY OF June, 2012.


SECRETARY

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, 20____ by and between C.B. Developers, Inc. hereinafter called the CONTRACTOR, CITY OF HATTIESBURG hereinafter called the OWNER, Witnesseth that the Contractor and the OWNER, for the consideration hereafter named and agrees as follows.

ARTICLE 1: SCOPE OF WORK

The Contractor agrees to furnish all tools, labor, equipment, materials, and supplies required to be furnished, and perform all work required under and in accordance with the plans entitled:

COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL MISCELLANEOUS CONNECTIONS

which are on file at the office of the OWNER, and the Specifications, Proposals, General and Special Conditions, attached hereto and made a part hereof as fully as though copied herein, under the direct supervision and to the entire satisfaction of the OWNER and in accordance with the Laws of the State of Mississippi.

ARTICLE 2: THE CONTRACT SUM

It is further agreed and understood by and between the parties hereunto that the OWNER agrees to pay and the Contractor agrees to accept full and final compensation for all work done under this agreement, the lump sum amount adjusted for variation of quantities at the unit prices named in the Proposal, which is hereto attached, such payment to be made in lawful money of the United States, at the time and in the manner hereinafter set forth.

ARTICLE 3: TIME OF COMPLETION

The Contractor agrees, for the consideration above expressed, to begin and complete the work within the time specified in the Proposal. If the Contractor fails to complete the work in the time specified, he shall pay the OWNER as **LIQUIDATED DAMAGES**, ascertained and agreed, and not in the nature of a penalty, the sum of **\$ 350.00** for each day delayed, which shall be deducted from the final amount to be paid under the contract; provided that the extension of time with the waiver of liquidation damages may be granted as provided for in the Specifications.

ARTICLE 4: PROGRESS PAYMENTS

The owner agrees to make progress payments during the construction as provided herein as follows:

The ENGINEER will on or before the tenth (10th) day of each month make an estimate of the value of the work done, based on contract prices.

The OWNER agrees to pay the CONTRACTOR 100% of the value of the work done each month, less five percent (5%) RETAINAGE until final acceptance of the work has been made).

ARTICLE 5: ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final acceptance and inspection, the Engineer shall promptly make such inspection, and when he finds the work acceptable under the contract, and the contract fully performed, he shall promptly issue a final certificate, over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof. Then, the entire balance shall be due the Contractor within sixty (60) days the date of said final acceptance.

Before issuance of final certificate, the Contractor shall submit evidence satisfactory to the ENGINEER that all payrolls, materials, bills, and other indebtedness connected with the work have been paid.

The making and acceptance of the final payment shall constitute a waiver of all claims by the OWNER, other than those arising from unsettled liens, from faulty work or materials appearing within one (1) year after payment, or claims previously made and still unsettled.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Engineer, so certifies, the OWNER shall, upon certificate of the Engineer and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE 6: THE PERFORMANCE BOND

The Contractor agrees to furnish a bond, with an approved surety thereon guaranteeing the performance of this contract, in no less than one hundred percent (100%) of the amount of the Contract. Said Bond shall be conditioned on full and complete performance of the Contract, and for the payment of all labor and materials for a period

of one (1) year after completion. The Surety on said Bond shall be a surety company of financial resources satisfactory to the OWNER and authorized to do business in the State of Mississippi.

ARTICLE 7: INSURANCE

The Contractor agrees to also carry Public Liability Insurance, Property Damage Insurance, and Workman's Compensation Insurance in amounts as required by the Specifications.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

OWNERS:

SEAL

City of Hattiesburg

BY

Taryn B...

Title Mayor

ATTEST

[Signature]

CONTRACTOR:

SEAL

L.B. Developers, Inc.

BY

[Signature]

Title Project MANAGER

ATTEST

[Signature]

PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: THAT WE, the Undersigned (hereinafter called the Principal), a corporation, partnership or individual duly unauthorized by law to do business as a construction contractor in the State of Mississippi, and Arch Insurance Company _____ of (herein called the Surety), a corporation duly authorized to do a surety business under the laws of the State of Mississippi, are held and firmly bound unto City of Hattiesburg, (hereinafter called the Obligee), a Municipality existing under the laws of the State of Mississippi, in the penal sum of Dollars (\$2,054,414.75) lawful money of the United States, for the payment of which well and truly to be made, the said Principal and the said Surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents, as follows:

The Condition of this obligation is such that; whereas Principal by an instrument in writing attached here-to and bearing date of _____ has agreed with said Obligee to do all work necessary and to furnish labor, materials, tools, supplies and services to construct **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS CROSSING AND IRENE CHAPEL** as shown on Plans and specified thereby in the Specifications, Proposal and other Contract Documents hereto attached.

NOW THEREFORE, if said Principal shall well and truly in good, sufficient and workmanlike manner, and to the satisfaction of Obligee perform and complete the work required, and shall defend, indemnify and save harmless said Obligee against all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising out of injury or damage to persons or property by reason or arising from any act, omission or neglect of said Principal, his agent, servants or employees with relation to said work; and shall pay all cost, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to Obligee completed and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to Obligee by reason of any default or neglect of the said Principal in the relation of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said surety for value received hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the Contract, or the work to be performed hereunder, or the Specifications accompanying the same, shall in any way affect its obligation on this bond and does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications.

PROVIDED FURTHER, that if Principal, his or its subcontractor or subcontractors fail to duly pay for any labor, materials, team hire, sustenance provisions or any other supplies or materials used or consumed by such Principal or his, their or its subcontractors in performance of the work contracted to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest as provided by law.

IN WITNESS THEREOF: Said Principal and surety have hereunto set their hands and seals at _____ this _____ day of _____, 20__.

(SEAL)

C.B. Developers, Inc.
PRINCIPAL

WITNESSES:

1755 Buhl
JIB

1716 Evelyn Gandy Parkway, Suite 40, Hattiesburg, MS 39401
ADDRESS

[Signature]
Name of person executing for Principal
Project Manager
TITLE

Arch Insurance Company
SURETY

Harborside 3, 210 Hudson Street, Suite 300
Jersey City, NJ 07311-1107
ADDRESS

WITNESSES:

[Signature]
[Signature]
Peggy Jackson
Wes Price

Witness
TITLE

[Signature]
Name of person executing for Surety
Brody Eric Buckley/Attorney-in-Fact
Resident MS Agent/Bottrell Insurance
P.O. Box 1490
Jackson, MS 39215-1490

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Mortgage, Note, Loan, Letter of Credit, Bank Deposit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Brody Eric Buckley

its true and lawful Attorney(s)-in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations.

Surety Bond Number: SU 1145477

Principal: C.B. Developers, Inc.

Obligee: City of Hattiesburg

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

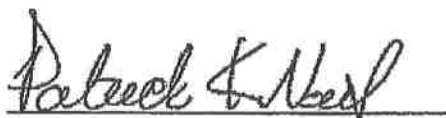
This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this _____ day of _____, 20____.

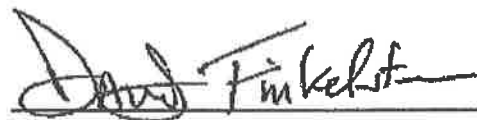
Attested and Certified

Arch Insurance Company



Patrick K. Nails, Secretary



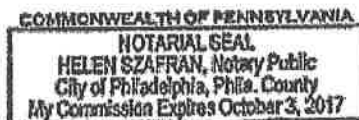


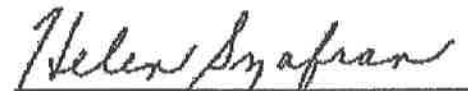
David M. Finkelstein, Executive Vice President

STATE OF PENNSYLVANIA SS

COUNTY OF PHILADELPHIA SS

I, Helen Szafran, a Notary Public, do hereby certify that Patrick K. Nails and David M. Finkelstein personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.



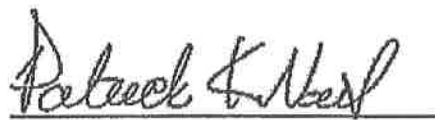


Helen Szafran, Notary Public
My commission expires 10/03/2017

CERTIFICATION

I, Patrick K. Nails, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated _____ on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said David M. Finkelstein, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this _____ day of _____, 20____.



Patrick K. Nails, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS:

Arch Insurance -- Surety Division
3 Parkway, Suite 1500
Philadelphia, PA 19102





CBDEVEL-01

ACOOK

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

08/14/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Fisher Brown Bottrell Insurance, Inc.
P. O. Box 1490
Jackson, MS 39215

CONTACT NAME: Angie Cook, CIC, PIAM

PHONE (A/C, No, Ext): (601) 960-8244

FAX (A/C, No): (601) 208-3044

E-MAIL ADDRESS: acook@fbbins.com

INSURED
C B Developers, Inc.
1716 Evelyn Gandy Parkway, #40
Hattiesburg, MS 39401

INSURER(S) AFFORDING COVERAGE

NAIC #

INSURER A : Brierfield Insurance Company

10993

INSURER B : American Interstate Insurance

31895

INSURER C : Travelers Property Casualty Company of America

25674

INSURER D :

INSURER E :

INSURER F :

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY						
	☐ CLAIMS-MADE ☒ OCCUR			GL0013568	05/17/2017	05/17/2018	EACH OCCURRENCE \$ 1,000,000
	☒ PD Ded: \$2,000						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						MED EXP (Any one person) \$ 5,000
	☐ POLICY ☒ PROJECT ☒ LOC						PERSONAL & ADV INJURY \$ 1,000,000
	OTHER:						GENERAL AGGREGATE \$ 2,000,000
							PRODUCTS - COM/OP AGG \$ 2,000,000
A	☒ AUTOMOBILE LIABILITY						
	☒ ANY AUTO OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY			CA10001384101	05/17/2017	05/17/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
							BODILY INJURY (Per person) \$
							BODILY INJURY (Per accident) \$
							PROPERTY DAMAGE (Per accident) \$
A	☒ UMBRELLA LIAB ☒ OCCUR						
	☐ EXCESS LIAB ☐ CLAIMS-MADE			UMB0014332	05/17/2017	05/17/2018	EACH OCCURRENCE \$ 5,000,000
	DED ☒ RETENTION \$ 10,000						AGGREGATE \$ 5,000,000
							Prod/Co Ops Agg \$ 5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) ☐ Y/N ☐ N/A			AVWCMS2562322017	01/01/2017	01/01/2018	☒ PER STATUTE ☐ OTH-ER
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. EACH ACCIDENT \$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
							E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	☒ Leased/Rented Equip			CM0006842	05/17/2017	05/17/2018	Ded See Below 260,000
C	☒ Installation Floater			6603222R85A	09/10/2016	09/10/2017	Ded: \$5,000 4,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The above referenced general liability, automobile liability & Umbrella liability policies contain blanket additional insured wording where required by written contract. General Liability includes ongoing & completed operations & is on a primary/non-contributory basis where required by written contract. General Liability, Automobile Liability & Workers Compensation policies contain blanket waiver of subrogation wording when required by written contract. Additional Insured Status applies as per forms attached to the policy & available for review upon request: GL (CGL084 10/13 & CGL088 10/13) AUTO (CAU058 01/15) UMB (CU0001 12/07) All coverage is subject to policy terms, conditions and exclusions.

REFERENCE ONLY:

SEE ATTACHED ACORD 101

CERTIFICATE HOLDER

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403-1898

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



ADDITIONAL REMARKS SCHEDULE

Page 1 of 1

AGENCY Fisher Brown Bottrell Insurance, Inc.		NAMED INSURED C B Developers, Inc. 1716 Evelyn Gandy Parkway, #40 Hattiesburg, MS 39401	
POLICY NUMBER SEE PAGE 1			
CARRIER SEE PAGE 1	NAIC CODE SEE P 1	EFFECTIVE DATE: SEE PAGE 1	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 26 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles:

Project: Comprehensive Water Improvements - Phase II, Palmers Crossing and Irene Chapel
Project: Comprehensive Sewer Improvements - Phase V
Project: Comprehensive Water Improvements Phase IV Miscellaneous Connections
Project: Water Line Extension along Old Highway 98 East and W. L. Runnels Industrial Drive
Project: Comprehensive Water Improvements Phase I,
Project: 592 Program Sewer Rehabilitation, Contract No. 3, City of Hattiesburg, MS Contract amount \$1,996,351.79
Project: Water System Extension on Veteran's Memorial Blvd. and South 28th Ave \$1,361,828.84

NOTICE OF AWARD

TO: C.B. Developers, Inc.
1716 Evelyn Gandy Pkwy
Hattiesburg MS 39401

Project: **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS**
CROSSING AND IRENE CHAPEL

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated March 31, 2017, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$2,054,414.75.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this 19th day of September, 2017

CITY OF HATTIESBURG
OWNER

BY: Tony [Signature]

TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by This the _____ day of _____, 20____.

Name: [Signature]

Title: Project Manager

NOTICE TO PROCEED

TO: C.B. Developers, Inc.
17116 Evelyn Gandy Pkwy
Hattiesburg, MS 39401

DATE: _____

Project: **COMPREHENSIVE WATER IMPROVEMENTS PHASE II PALMERS**
CROSSING AND IRENE CHAPEL

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 20__ on or before _____, 20__, and you are to complete the WORK within 180 consecutive CALENDER DAYS thereafter. The date of completion of all WORK is therefore _____, 20__.

CITY OF HATTIESBURG
OWNER

BY: _____

TITLE: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____ This the _____ day of _____, 20__.

Name: _____

Title: Project Manager

GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meaning indicated which shall be applicable to both the singular and plural thereof.

ACCEPTANCE: By the OWNER of the Work as being fully complete in accordance with the Contract Documents.

AGREEMENT: The written agreement between the OWNER and the CONTRACTOR covering the Work to be performed: the Contract Documents are attached to and made a part of the Agreement. Also designated as the Contract.

ADDENDA: Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by addition, deletions, clarifications or corrections.

APPLICATION FOR PAYMENT: The form furnished by the ENGINEER which is to be used by the CONTRACTOR in requesting progress payments and an affidavit of the CONTRACTOR that progress payments theretofore received from the OWNER on account of the WORK have been applied by the CONTRACTOR to discharge in full all of the CONTRACTOR'S obligations stated in prior Applications for Payment.

APPROVAL: Accept as satisfactory.

BID: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BIDDER: Any person, firm or corporation submitting a Bid for the Work.

BONDS: Bid, performance and payment bonds and other instruments of security furnished by the CONTRACTOR and his surety in accordance with the Contract Documents and in accordance with the law of the place of the project.

CHANGE ORDER: A written order to the CONTRACTOR signed by the OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after execution of the Agreement.

CONTRACT DOCUMENTS: The Agreement, Addenda, Instruction's to Bidders, CONTRACTOR'S BID, the Bonds, the Notice of Award, these General Conditions, the Supplementary conditions, Special Conditions, Technical Conditions, the Specifications, Drawings and Modifications, and Notice to Proceed.

CONTRACT PRICE: The total moneys payable to the CONTRACTOR under the Contract Documents.

CONTRACT TIME: The number of calendar days stated in the Agreement for the completion of the Work.

CONTRACTING OFFICER: The owner (Grantee) - The individual who is authorized to sign the contract documents on behalf of the owner's governing body.

CONTRACTOR: The person, firm or corporation with whom the OWNER has executed the Agreement.

DAY: A calendar day of twenty-four hours measured from midnight to the next midnight.

DRAWINGS: The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the ENGINEER and are referred to in the Contract Documents.

ENGINEER: The person, firm or corporation named as such in the Contract Documents.

FIELD ORDER: A written order issued by the ENGINEER which clarifies or interprets the Contract Documents in accordance with Paragraph 9.3 or orders minor changes in the Work in accordance with paragraph 10.2.

MODIFICATION: (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order (c) a written clarification or interpretation issued by the ENGINEER in accordance with paragraph 9.3 or (d) a written order for a minor change or alteration in the Work issued by the ENGINEER pursuant to paragraph 10.2. A modification may only be issued after execution of the Agreement.

NOTICE OF AWARD: The written notice by OWNER to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by him within the time specified, OWNER will execute and deliver the Agreement to him.

NOTICE TO PROCEED: A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligations under the Contract Documents.

OWNER: A public body or authority, corporation, association, partnership, or individual for whom the Work is to be performed.

PROJECT: The entire construction to be performed as provided in the Contract Documents.

CONSTRUCTION OBSERVER

RESIDENT INSPECTOR

CONSTRUCTION INSPECTOR

PROJECT REPRESENTATIVE: An authorized representative of the ENGINEER assigned to observe the Work performed and materials furnished by the CONTRACTOR or such other person as may be appointed by the OWNER as his representative. The CONTRACTOR shall be notified in writing of the identity of this representative.

SHOP DRAWINGS: All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a Subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work and as required by the Contract Documents.

SAMPLES: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

SPECIFICATIONS: Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

SUBCONTRACTOR: An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION: The stage in construction when a project can be utilized for the purposes for which it was intended. At substantial completion, minor items and items that are seasonally restricted need not be completed, but the items that affect operational integrity and function of the facility must be capable of continuous use.

SUPPLEMENTARY GENERAL CONDITIONS: Federal Conditions in effect at time of submission of Bid.

SUPPLIER: Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

SPECIAL CONDITIONS: When included as a part of the Contract Documents, Special Conditions refer only to the Work under this Contract.

SURETY: The corporate body which is bound with the CONTRACTOR and which engages to be responsible for the CONTRACTOR and his acceptable performance of the Work.

WORK: Any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by CONTRACTOR under the Contract Documents, including all labor, materials, equipment and other incidentals, and the furnishing thereof.

WRITTEN NOTICE: The term "Notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with Contract requirements. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or to an authorized representative of such individual, firm or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the notice. Unless otherwise stated in writing, any notice to or demand upon the OWNER under this Contract shall be delivered to the OWNER through the ENGINEER.

ARTICLE 2 - PRELIMINARY MATTERS:

AWARD:

2.1 The award of the Contract, if it is awarded, will be to the lowest responsible, responsive Bidder. No Notice of Award will be given until the OWNER has concluded such investigations as he deems necessary to establish the responsibility, qualifications, and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the BID of any Bidder who does not pass such investigation to the OWNER'S satisfaction. In analyzing Bids, the OWNER may take into consideration alternates and unit prices, if requested by the Bid Form. If the Contract is awarded, the OWNER will issue the NOTICE of AWARD and give the successful Bidder a contract for execution within sixty (60) days after the opening of Bids.

EXECUTION OF AGREEMENT:

2.2 At least three counterparts of the Agreement and such other Contract Documents will be executed and delivered by CONTRACTOR to the OWNER within 10 working days or 15 calendar days of receipt from the OWNER.

FORFEITURE OF BID SECURITY:

2.3 Failure of the successful Bidder to execute and deliver the Agreement and deliver the required Bonds as stipulated in paragraph 2.2 shall be just cause for the OWNER to annul the Notice of Award and declare the Bid and any security therefore forfeited.

CONTRACTOR'S PRE-START REPRESENTATIONS:

2.4 CONTRACTOR represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with, the nature and extent of the Contract Documents, Work, Locality, and local conditions and will obey all federal, state, and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that he has correlated his study and observations with the requirements of the Contract Documents. CONTRACTOR also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the Specifications and made such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

COMMENCEMENT OF CONTRACT TIME:

2.5 The Contract Time will commence to run no less than the 15 days after receipt by the CONTRACTOR of the Notice to Proceed.

STARTING THE PROJECT:

2.6 CONTRACTOR shall start to perform his obligations under the Contract Documents on the date when the Contract Time commences to run. No Work shall be done at the site prior to the date on which the Contract Time commences to run, except with the written consent of the OWNER.

BEFORE STARTING CONSTRUCTION:

2.7 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. He shall at once report in writing to ENGINEER any conflict, error or discrepancy which he may discover; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Drawings or Specifications.

SCHEDULE OF COMPLETION:

2.8 Within ten (10) days after delivery of the Notice to Proceed by OWNER to CONTRACTOR, CONTRACTOR shall submit to ENGINEER an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the Work, and a preliminary schedule of Shop Drawing submissions. See paragraphs 6.22 through 6.26. The ENGINEER shall review and return this schedule or require revisions thereto within 14 days of its submittal. If there is more than one CONTRACTOR involved in a project, the responsibility for coordinating the Work of all CONTRACTORS

shall be as provided in the Special Conditions.

2.9 Within twenty (20) days after delivery of the executed agreement by OWNER to CONTRACTOR, but before starting the Work at the site, a preconstruction conference will be held to review the above schedules, to establish procedures for handling shop drawings and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the project. Present at the conference will be the OWNER or his representative, ENGINEER, Resident Project Representatives, CONTRACTOR and his Superintendent.

QUALIFICATION OF SUBCONTRACTORS MATERIALMEN AND SUPPLIERS:

2.10 Within ten (10) working days after bid opening, the CONTRACTOR will (if required) submit to the OWNER and the ENGINEER for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish principal items of material or equipment) proposed for those portions of the Work as to which the identity of the Subcontractors and other person and organizations must be submitted as specified in the Contract Documents. Within thirty (30) working days after receiving the list, the ENGINEER will notify the CONTRACTOR in writing if either the OWNER or the ENGINEER, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the OWNER or the ENGINEER to make objection to any Subcontractor, person or organization on the list within thirty days of receipt shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the OWNER or the ENGINEER to reject defective Work, material or equipment, or Work, material or equipment not in conformance with the requirements of the Contract Documents.

ARTICLE 3 - CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS:

3.1 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR. They may be altered only by a Modification.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall call it to the ENGINEER'S attention in writing at once and before proceeding with the Work affected thereby; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Specifications or Drawings. The various Contract Documents shall be given precedence, in case of conflict, error or discrepancy, as follows: Agreement Modifications, Addenda, Special Conditions, and Instruction's to Bidders, General Conditions, Technical Specifications and

Drawings.

3.3 The words "furnish", "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service."

3.4 Miscellaneous items and accessories which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or usable structure or plant providing the indicated function, shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards including material, style, finish, strength, class, weight and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the ENGINEER before installation. The above requirement is not intended to include major components not covered by or inferable from the Drawings and Specifications.

3.5 The Work of all trades under this Contract shall be coordinated by the CONTRACTOR in such a manner as to obtain the best workmanship possible for the entire Project, and all components of Work shall be installed or erected in accordance with the best practices of the particular trade.

3.6 Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes or standard specifications or other data published by regulating agencies or accepted organizations, including but not limited to National Electrical Code, applicable State Building Code, Federal Specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of Bid.

3.7 Brand names where used in the Technical Specifications, are intended to denote the standard of quality required for the particular material or product. The use of a brand name item is to set a standard of quality and is not intended to restrict the Contractor from offering an equal item from other source(s) of supply. The term "equal" or "equivalent" when used in connection with brand names, shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color and other applicable characteristics to the material or product specified by trade name, and that is for the same use and capable of performing the same function, in the opinion of the ENGINEER, as the material or product so specified. Proposed equivalent items must be approved by ENGINEER before they are purchased or incorporated in the Work.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE CONDITIONS;
REFERENCE POINTS:

Availability of Lands

4.1 The OWNER will furnish, as indicated in Contract Documents the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise specified in the Contract Documents. Other access to such lands or rights-of-way for the CONTRACTOR'S convenience shall be the responsibility of the CONTRACTOR. The CONTRACTOR will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 The OWNER will, upon request, furnish to the BIDDERS copies of all available boundary surveys.

Subsurface Conditions:

4.3 The CONTRACTOR acknowledges that he has investigated prior to bidding and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the grounds, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The CONTRACTOR further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done on behalf of the OWNER on the site or any contiguous site, as well as from information presented by the Drawings and Specifications made a part of this Contract, or any other information made available to him prior to receipt of Bids. Any failure by the CONTRACTOR to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The OWNER assumes no responsibility for any conclusions or interpretations made by the CONTRACTOR on the basis of the information made available by the OWNER.

Differing Site Conditions

4.4 (a) The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The

OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above.

(c) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

ARTICLE 5 - BONDS AND INSURANCE:

Performance and Payment Bonds:

5.1 The contractor's attention is directed to the Information for Bidders.

Contractor's Liability Insurance:

5.2 The CONTRACTOR shall provide the OWNER with insurance certificates certifying that all required insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

5.3 The CONTRACTOR agrees that if any part of the Work under the contract is sublet, he will require the Subcontractor(s) to carry insurance as required, and that he will require the Subcontractor(s) to furnish to him insurance certificates similar to those required by the OWNER in 5.1 above.

5.4 The CONTRACTOR agrees to add ENGINEER to insurance policy as additional insured.

Owner's Liability Insurance

5.4 The OWNER will be responsible for purchasing and maintaining his own liability insurance and, at his option, may purchase and maintain such insurance as will protect him against claims which may arise from operations under the Contract Documents.

Fire and Extended Coverage Insurance (Builders' Risk):

5.5 The CONTRACTOR shall maintain, as applicable, in an Insurance Company or Insurance Companies acceptable to the OWNER, Fire, Extended Coverage and Vandalism & Malicious Mischief Insurance on buildings and structures, while in the course of construction, including foundations, additions, attachments and all permanent fixtures belonging to and

constituting a part of said buildings or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the Contract. The amount of insurance should at all times be at least equal to the actual cash value of the insured property. The policy shall be in the name of the OWNER and the CONTRACTOR, as their interests may appear, and shall also cover the interests of all Subcontractors performing work.

5.6 The CONTRACTOR shall provide the OWNER with satisfactory evidence certifying that the foregoing insurance is in force; and such evidence shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

Cancellation and Re-Insurance:

5.7 If any insurance should be canceled or changed by the insurance company or should any insurance expire during the period of this Contract, the CONTRACTOR shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain continuous coverage during the life of this Contract.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES:

Supervision and Superintendence:

6.1 The CONTRACTOR will supervise and direct the Work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work. (Copies of written communications given to the Superintendent shall be mailed to the Contractor's home or office.)

Labor, Materials and Equipment:

6.2 The CONTRACTOR will provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order at the site.

6.3 The CONTRACTOR will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

6.4 All materials and equipment will be new, except as otherwise provided in the Contract

Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

6.5 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

Materials, Equipment, Products and Substitutions:

6.6 Materials, equipment and products incorporated in the Work must be approved for use before being purchased by the CONTRACTOR. The CONTRACTOR shall submit to the ENGINEER a list of proposed materials, equipment or products, together with such samples as may be necessary for him to determine their acceptability and obtain his approval, within ninety (90) calendar days after award of Contract. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the ENGINEER.

6.6.1 Whenever a material, article or piece of equipment is identified on the drawings or Specifications by reference to brand names or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand names or catalog number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Incidental charges or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the Contract Price, or Contract Time.

6.6.2 No substitute shall be ordered or installed without the written approval of the ENGINEER who shall be the judge of equality.

6.6.3 Delay caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.

6.6.4 Should any work or materials, equipment or products not conform to requirements of the Drawings and Specifications or become damaged during the process of the Work, such Work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the Project. All such work shall be done at the expense of the CONTRACTOR. (See paragraph 7.10)

6.6.5 No materials or supplies for the Work shall be purchased by the CONTRACTOR or by

any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the Seller. The CONTRACTOR warrants that he has good title to all materials and supplies used by him in the Work.

Concerning Subcontractors:

6.7 The CONTRACTOR will not employ any Subcontractor, other person or organization of the types referred to in paragraph 2.10 (whether initially or as a substitute) against whom the OWNER or the ENGINEER may have reasonable objection, nor will the CONTRACTOR be required to employ any Subcontractor against whom he has reasonable objection. The CONTRACTOR will not make any substitution for any Subcontractor who has been accepted by the OWNER and the ENGINEER, unless the ENGINEER determines that there is good cause for doing so.

6.8 The CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any Subcontractor or other person or organization having a direct contract with CONTRACTOR, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER or ENGINEER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done in accordance with the schedule of values.

6.9 The divisions and sections of the Specifications and the identifications of any drawings shall not control the CONTRACTOR in dividing the work among Subcontractors or delineating the Work to be performed by any specific trade.

6.10 The CONTRACTOR agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the OWNER.

6.11 All Work performed for the CONTRACTOR by a Subcontractor shall be pursuant to an appropriate agreement between the CONTRACTOR and the Subcontractor.

6.12 The CONTRACTOR shall be responsible for the coordination of the trades, Subcontractors and material men engaged upon his Work.

6.12.1 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the CONTRACTOR by the terms of these General Conditions and other Contract Documents insofar as applicable to the Work of Subcontractors, and to give the CONTRACTOR the same power as regards

terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provisions of the Contract Documents.

6.12.2 The OWNER or ENGINEER will not undertake to settle any differences between the CONTRACTOR and his Subcontractors or between Subcontractors.

6.12.3 If in the opinion of the ENGINEER, any Subcontractor on the project proves to be incompetent or otherwise unsatisfactory, he shall be replaced if and when directed in writing.

Patent Fees and Royalties:

6.13 The CONTRACTOR will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

6.14 The CONTRACTOR shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles or systems prior to bidding. However, he shall not be responsible for such determination on systems which do not involve purchase by him of materials, appliances, and articles.

Permits:

6.15 The CONTRACTOR will secure and pay for all construction permits and licenses and will pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of his Bid. When such charges are normally made by the OWNER, there will be no charges to the CONTRACTOR. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR will also pay all public utility charges.

Laws and Regulations:

6.16 The CONTRACTOR will give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, he will give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Modification. If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he will bear all costs arising wherefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and

regulations.

Taxes:

6.17 Cost of all sales and other taxes for which the CONTRACTOR is liable under the Contract shall be included in the Contract Price stated by the CONTRACTOR.

Record Drawings:

6.18 The CONTRACTOR will keep one record copy of all Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Engineer and shall be delivered to him for the OWNER upon completion of the Project. It shall be used for this purpose only.

Safety and Protection:

6.19 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

6.19.1 All employees on the work and other persons who may be affected thereby.

6.19.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

6.19.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

6.20 The CONTRACTOR will designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the CONTRACTOR'S superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER.

Emergencies:

6.21 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He will give the ENGINEER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall be issued covering the changes and deviations involved. If the CONTRACTOR

believes that additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in Articles 11 & 12.

Shop Drawing and Samples:

6.22 After checking and verifying all field measurements, the CONTRACTOR will submit to the ENGINEER for review, in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9) copies (or at the ENGINEER'S option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the CONTRACTOR. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the ENGINEER to review the information as required.

6.23 The CONTRACTOR will also submit to the ENGINEER for review, with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the CONTRACTOR, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

6.24 At the time of each submission, the CONTRACTOR will in writing call the ENGINEER'S attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.

6.25 The ENGINEER will review with reasonable promptness Shop Drawings and samples, but his review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The CONTRACTOR will make any corrections required by the ENGINEER and will return the required number of corrected copies of Shop Drawings and resubmit new samples until the review is satisfactory to the ENGINEER. The CONTRACTOR shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the ENGINEER on previous submissions. The CONTRACTOR'S stamp of approval on any Shop Drawings or sample shall constitute a representative to the OWNER and the ENGINEER that the CONTRACTOR has either determined and verified all quantities, dimensions, field construction criteria, materials, catalogue numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawings or sample with the requirements of the Work and the Contract Documents.

6.26 No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been reviewed by the ENGINEER. A copy of each Shop Drawing and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6.27 The ENGINEER'S review of Shop Drawings or samples shall not relieve the

CONTRACTOR from his responsibility for any deviations from the requirements of the Contract Documents unless the CONTRACTOR has in writing called the ENGINEER'S attention to such deviation at the time of submission and the ENGINEER has given written approval to the specific deviation, nor shall any review by the ENGINEER relieve the CONTRACTOR from responsibility for errors or omission in the Shop Drawings.

Cleaning Up:

6.28 The CONTRACTOR shall clean up behind the Work as much as is reasonably possible as the Work progresses. Upon completion of the Work, and before acceptance of and final payment for the Project by the owner, the CONTRACTOR shall remove all his surplus and discarded materials excavated material and rubbish from the roadways, sidewalks, parking areas, lawns and all adjacent property; shall clean his portion of Work involved in any building under this Contract, so that no further cleaning by the OWNER is necessary prior to his occupancy; shall restore all property, both public and private, which has been disturbed or damaged during the prosecution of the Work; and shall leave the whole in a neat and presentable condition.

6.29 Clean-up operations shall consistently be carried on by the CONTRACTOR at all times to keep the premises free from accumulation of waste materials and rubbish. Upon completion of the Work he shall remove all rubbish, tools, scaffolding, surplus materials, etc., and shall leave his work "broom clean", or its equivalent, unless more exactly specified elsewhere in the Contract. The General CONTRACTOR shall do the following special cleaning for all trades upon completion of the Work.

6.30 General. In case of dispute, the OWNER may remove the rubbish and charge the cost to the several contractors as the ENGINEER shall determine to be just.

Public Convenience and Safety:

6.31 The CONTRACTOR shall, at all times, conduct the Work in such a manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of the Work shall be provided for in a satisfactory manner, consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the Work, in a conspicuous position at such locations as traffic demands. At any time that streets are required to be closed, the CONTRACTOR shall notify law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

Sanitary Provisions:

6.32 The General CONTRACTOR shall furnish necessary toilet conveniences, secluded from

public observation, for use of all personnel on the Work, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the Public Authorities having jurisdiction. He shall commit no public nuisance. Temporary sanitary facilities shall be removed upon completion of the Work and the premises shall be left clean.

Indemnification:

6.33 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses, and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss, or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than Work itself) including the loss of use resulting wherefrom and (b) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

6.34 In any and all claims against the OWNER or the ENGINEER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.35 The obligations of the CONTRACTOR under paragraph 6.33 shall not extend to the liability of the Engineer's negligent acts, errors or omissions or those of his employees or agents.

Responsibility for Connecting to Existing Work:

6.36 It shall be the express responsibility of the CONTRACTOR to connect his Work to each part of the existing work or work previously installed as required by the Drawings and Specifications to provide a complete installation.

Work in Street, Highway and Other Rights-of-Way:

6.37 Excavation, grading, fill, storm drainage, paving and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines (either aerial, surface or subsurface), etc., shall be done in accordance with requirements of the special conditions. The OWNER will be responsible for obtaining all permits necessary for the work. Upon completion of the Work, CONTRACTOR shall present to ENGINEER certificates, in triplicate, from the proper authorities stating that the Work has been done in

accordance with their requirements.

6.37.1 The OWNER will cooperate with the CONTRACTOR in obtaining action from any utilities or public authorities involved in the above requirements.

6.37.2 The ENGINEER shall be responsible for obtaining elevations of curbs and gutters, pavement, storm drainage structures, and other such items which must be established by governmental departments as soon as grading operations are begun on the site and, in any case, sufficiently early in the construction period to prevent any adverse effect on the Project.

Cooperation with Governmental Departments, Public Utilities, Etc:

6.38 The OWNER shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structure connected therewith, that are encountered in the work in order that such items may be properly shored, supported and protected, or the CONTRACTOR may relocate them if he so desires. The CONTRACTOR shall give all proper notices, shall comply with requirements of such parties in the performance of his Work, shall permit entrance of such parties on the Project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this work.

6.38.1 The CONTRACTOR'S attention is called to the fact that there may be delays on the Project due to work to be done by governmental departments, public utilities, and others in repairing or moving poles, conduits, etc. The CONTRACTOR shall cooperate with the above parties, in every way possible, so that the construction can be completed in the least possible time.

6.38.2 The CONTRACTOR shall have made himself familiar with all codes, laws, ordinances and regulations which in any manner affect those engaged or employed in the Work, or materials and equipment used in or upon the Work, or in any way affect the conduct of the Work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

Use of Premises:

6.39 CONTRACTOR shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, permits, and directions of ENGINEER and OWNER, and shall not unnecessarily encumber any part of site.

6.39.1 CONTRACTOR shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the Work to

stresses or pressures that will endanger it.

6.39.2 CONTRACTOR shall enforce OWNER'S instructions in connection with signs, advertisements, fires and smoking.

6.39.3 CONTRACTOR shall arrange and cooperate with OWNER in routing and parking of automobiles of his employees, subcontractors and other personnel and in routing material delivery trucks and other vehicles to the Project Site.

Protection of Existing Property Improvements:

6.40 Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings or structures (including portions thereof), trees, and shrubbery not indicated on the Drawings or noted in the Specifications as being removed or altered shall be protected from damage during construction of the Project. Any such improvements damaged during construction of the Project shall be restored to a condition equal to that existing at time of award of Contract.

Temporary Heat:

6.41 The General CONTRACTOR shall provide heat, fuel and services as necessary to protect all work and materials, within all habitable areas of permanent building construction, for all contracts against injury from dampness and cold until final acceptance of all work and materials for the Project, unless building is fully occupied by the OWNER prior to such acceptance, in which case the OWNER shall assume all expenses of heating from date of full occupancy. In areas outside those covered above, each prime contractor shall be responsible for providing such temporary heat, fuel and services as required to protect his work or shall make all necessary arrangements with the General CONTRACTOR for providing such temporary heat, fuel and services. Unless otherwise specifically permitted by Special Conditions, the permanent heating system shall not be used to provide temporary heat. CONTRACTOR'S proposed methods of heating shall be submitted for approval.

ARTICLE 7 - WORK BY OTHERS:

7.1 The OWNER may perform additional work related to the Project by himself, or he may let other direct contracts therefore which shall contain General Conditions similar to these. The CONTRACTOR will afford the other contractors who are parties to such direct contracts (or the OWNER, if he is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

7.2 If any part of the CONTRACTOR'S work depends for proper execution or results upon the work of any such other CONTRACTOR (or the OWNER), the CONTRACTOR will

promptly report to the ENGINEER in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results.

7.3 The CONTRACTOR will do all cutting, fitting, and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The CONTRACTOR will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and of the other contractors whose work will be affected.

7.4 If the performance of additional work by other contractors or the OWNER is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work. If the CONTRACTOR believes that the performance of such additional work by the OWNER or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provide in Articles 11 and 12.

7.5 Where practicable, the General CONTRACTOR shall build around the work of other separate contractors or shall leave chases, slots and holes as required to receive and to conceal within the general construction work the work of such other separate contractors as directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the ENGINEER.

7.6 Necessary chases, slots and holes not built or left by the General CONTRACTOR shall be cut by the separate contractor requiring such alterations after approval of the General CONTRACTOR. The General CONTRACTOR shall do all patching and finishing of his Work where cut by other contractors at the expense of such other contractors.

7.7 Cooperation is required in the use of site facilities and in the detailed execution of the Work. Each CONTRACTOR shall coordinate his operations with those of the other contractors for the best interest of the Work in order to prevent delay in the execution thereof.

7.8 Each CONTRACTOR shall keep himself informed of the progress of the work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the CONTRACTOR shall notify the ENGINEER immediately. Lack of such notice to the ENGINEER will be construed as acceptance by the CONTRACTOR of the status of the work of other contractors as being satisfactory for proper coordination of his own work.

7.9 Each CONTRACTOR shall give notices of the progress of his work so as to allow other contractors adequate opportunity to properly direct and coordinate their work. The General Contractor shall give notices of the progress of his Work so that work of other contractors, when required to be concealed, may be placed before the general construction Work. All such notices shall be submitted to the ENGINEER with copies to other prime contractors on

the Project sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 The cost of extra work resulting from lack of notices, untimely notices, failure to respond to notices, defective work or lack of coordination shall be borne by the CONTRACTOR responsible for such lack of notices, etc.

ARTICLE 8 - OWNER'S RESPONSIBILITIES:

8.1 The OWNER will issue all communications to the CONTRACTOR through the ENGINEER.

8.2 In case of termination of the employment of the ENGINEER, the OWNER will appoint an engineer against whom the CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration, if mutually agreeable.

8.3 The OWNER will furnish the data required of him under the Contract Documents promptly and shall make payments to the CONTRACTOR promptly after they are due as provided in Article 14.

8.4 OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1, 4.4 and the Special Conditions. Paragraphs 4.2 and 4.3 refer to OWNER'S identifying and making available to CONTRACTOR copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications.

8.5 The OWNER'S responsibilities in respect of liability and property insurance are set forth in paragraph 5.4.

8.6 In addition to his rights to request changes in the Work in accordance with Article 10, the OWNER (especially in certain instances as provided in paragraph 10.4) will be obligated to execute Change Orders.

8.7 In connection with the OWNER'S right to stop Work or suspend Work; see paragraph 15.1. Paragraph 15.3 deals with the OWNER'S right to terminate services of the CONTRACTOR under certain circumstances.

8.8 The OWNER shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the fact that the time for completing the entire Work or any portion thereof may not have expired; but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays

the Work, the CONTRACTOR shall be entitled to such extra compensation or extension of time or both, except by prior agreement, as the ENGINEER may determine. See paragraph 14.11.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION:

Owner's Representative:

9.1 The ENGINEER shall be the OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER'S representative during construction are set forth in Articles 1 through 17 of these General Conditions and shall not be extended without written consent of the OWNER and the ENGINEER.

9.1.1 The ENGINEER'S decision, in matters relating to aesthetics shall be final, if within the terms of the Contract Documents.

9.1.2 Except as may be otherwise provided in this contract all claims, counter-claims, disputes and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this agreement or the breach thereof will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the State in which the OWNER is located.

Visits to Site:

9.2 The ENGINEER will make periodic visits to the site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. He will not be required to make continuous on-site observations to check the quality or quantity of the Work. His efforts will be directed toward ascertaining on behalf of the OWNER that the completed Project will conform to the requirements of the Contract Documents. On the basis of his on-site observations as an experienced and qualified design professional, he will keep the OWNER informed of the progress of the Work and will endeavor to guard the OWNER against defects and deficiencies in the Work of contractors.

Clarifications and Interpretations:

9.3 The ENGINEER will issue with reasonable promptness such written clarification or interpretations of the Contract Documents (in the form of Drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the Contractor believes that a written clarification and interpretation entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

Measurement of Quantities:

9.4 All Work completed under the Contract will be measured by the ENGINEER according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

Rejecting Defective Work:

9.5 The ENGINEER will have authority to disapprove or reject Work which is "defective" (which term is hereinafter used to describe Work that is unsatisfactory, faulty or defective, or does not meet the requirements of any inspection, test or approval or has been damaged prior to final acceptance). He will also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.6 In connection with the ENGINEER'S responsibility as to Shop Drawings and samples, see paragraphs 6.22 through 6.27, inclusive.

9.7 In connection with the ENGINEER'S responsibility for Change Orders; see Articles 10, 11, and 12.

9.8 In connection with the ENGINEER'S responsibilities in respect of Application for Payment, etc., see Article 14.

Resident Project Representative:

9.9 The OWNER or the ENGINEER will provide on-site representation sufficient to guarantee that construction is in general compliance with the construction drawings and the contract specifications.

Decisions on Disagreements:

9.10 The ENGINEER will be the initial interpreter of the terms and conditions of the Contract Documents and the judge of the performance hereunder. In his capacity as interpreter and judge, he will exercise his best efforts to insure faithful performance by both the OWNER and the CONTRACTOR. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work or the interpretation of or performance under the Contract Documents shall be referred initially to the ENGINEER for decision; which he shall render in writing within a reasonable time.

9.11 Either the OWNER or the CONTRACTOR, if the other agrees, may request legal action with respect to any such claim, dispute or other matter that has been referred to the

ENGINEER, except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.11, such legal action to be in accordance with Article 16. However, no request for legal action of any such claim, dispute or other matter shall be made until the earlier of (a) the date on which the ENGINEER has rendered his decision or (b) the tenth day after the parties have presented their evidence to the ENGINEER if he has not rendered his written decision before that date. No request for legal action shall be made later than thirty (30) days after the date on which the ENGINEER rendered his written decision in respect of the claim, dispute or other matter as to which legal action is sought; and the failure to request legal action within said thirty (30) days period shall result in the ENGINEER'S decision being final and binding upon the OWNER and the CONTRACTOR. If the ENGINEER renders a decision after legal proceedings have been initiated, such decision may be entered as evidence but shall not supersede the legal proceedings, except where the decision is acceptable to the parties concerned.

Limitations on Engineer's Responsibilities:

9.12 Neither the ENGINEER'S authority to act under this Article 9 nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any of their agents or employees or any other person performing any of the Work.

9.13 The ENGINEER will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

9.14 The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other person performing any of the Work.

ARTICLE 10 - CHANGES IN THE WORK:

10.1 Without invalidating the Agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, the CONTRACTOR will proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12. A Change Order signed by the CONTRACTOR indicates his agreement therewith.

10.2 The ENGINEER may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the CONTRACTOR believes that any minor

change or alteration authorized by the ENGINEER entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

10.3 Additional Work performed by the CONTRACTOR without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.21 and except as provided in paragraph 10.2.

10.4 The OWNER will execute appropriate Change Orders prepared by the ENGINEER covering changes in the Work to be performed as provided in paragraph 4.4, and Work performed in an emergency as provided in paragraph 6.21 and any other claim of the CONTRACTOR for a change in the Contract Time or the Contract Price which is approved by the ENGINEER.

10.5 It is the CONTRACTOR'S responsibility to notify his surety of any changes affecting the general scope of the Work or change in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. The CONTRACTOR will furnish proof of such adjustment to the OWNER.

ARTICLE 11 - CHANGE OF CONTRACT PRICE:

11.1 The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without changing the Contract Price.

11.2 (a) The OWNER may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the Work within the general scope of the contract, including but not limited to changes:

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Owner-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation or determination) from the OWNER, which causes any such change, shall be treated as a change order under this clause, provided that the CONTRACTOR gives the OWNER written notice stating the date, circumstances, and source of the order and that the CONTRACTOR regards the order as a change order.

(c) Except as herein provided, no order, statement, or conduct of the OWNER shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment hereunder.

(d) If any change under this clause causes an increase or decrease in the CONTRACTOR'S cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: PROVIDED, HOWEVER, that except for claims based on defective specifications, no claim for any change under (b) above shall be allowed for any costs incurred more than 20 days before the CONTRACTOR gives written notice as therein required. And provided further, that in the case of defective specifications for which the OWNER is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the CONTRACTOR in attempting to comply with such defective specifications.

(e) If the CONTRACTOR intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the OWNER a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the OWNER. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1 Where the Work involved is covered by unit prices contained in the Contract

Documents by application of unit prices to the quantities of the items involved. Should the Work (by quantity) be increased or decreased by 15 per cent from that stipulated in the Contract Documents, the OWNER and the CONTRACTOR may request adjustment of the unit prices by negotiation. If negotiation fails to reach agreement, then either party may request arbitration for the volume in excess of the 15 per cent differential.

11.3.2 By negotiated lump sum.

11.3.3 The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise maybe agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to salaries and wages plus the costs of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays shall be included in the above to the extent authorized by OWNER.

11.4.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturer's field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to him and shall deliver such Bids to OWNER who will then determine with the advice of ENGINEER, which Bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of Work plus a Fee, the cost of the Work shall be determined in accordance with paragraphs 11.4 and 11.5.

11.4.4 Costs of special consultants (including but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work.

11.4.5 Supplemental costs including the following:

11.4.5.1 The proportion of necessary transportation, travelling and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or other in accordance with rental agreements approved by

OWNER with the advice of ENGINEER, and the cost of transportation, loading, unloading, installation, dismantling and removal thereof--all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall end when the use thereof is no longer necessary for the Work.

11.4.5.4 Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable imposed by any governmental authority.

11.4.5.5 Deposits lost for causes other than CONTRACTOR'S negligence, royalty payments and fees for permits and licenses. Costs for permits and licenses must be shown as a separate item.

11.4.5.6 Losses, damages and expenses, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the execution of, and to, the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of Work for the purpose of determining CONTRACTOR'S fee. If however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9 Cost of premiums for additional Bonds and Insurance required because of changes in the Work.

11.5 The term cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals, (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the schedule referred to in subparagraph 11.4.1 -- all of which are to be considered administrative costs covered by the CONTRACTOR'S Fee.

11.5.2 Expenses of CONTRACTOR'S principal and branch offices other than his office at the site.

11.5.3 Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S

capital employed for the Work and charges against CONTRACTOR'S for delinquent payments.

11.5.4 Cost of premiums for all bonds and for all insurance policies whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as otherwise provide in subparagraph 11.4.5.9.)

11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractors, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR'S Fee which shall be allowed to CONTRACTOR for his overhead and profit shall be determined as follows;

11.6.1 A mutually acceptable firm fixed price; or if none can be agreed upon,

11.6.2 A mutually acceptable fixed fee based on the estimate of the various portions of the Cost of the Work.

11.7 The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.8 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will submit in form prescribed by ENGINEER an itemized cost breakdown together with supporting data.

11.9 Allowances: It is understood that the CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such material men, suppliers, or Subcontractors and for such sums within the limit of the allowances as the ENGINEER may approve. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The CONTRACTOR agrees that the original Contract Price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

11.9.1 These allowances shall cover the cost to the CONTRACTOR less any applicable trade

discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes.

11.9.2 The CONTRACTOR'S costs for unloading and handling on site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Price and not in the allowance.

11.9.3 Whenever the cost, as described in 11.9.1 above, is more than or less than the allowance, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses, except that whenever unit price allowances are stipulated for brick, the Change Order will not include any cost as described in 11.5 above.

ARTICLE 12 - CHANGE OF THE CONTRACT TIME:

12.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to OWNER and ENGINEER within ten days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

12.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if he makes a claim therefore as provided in paragraph 12.1. Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by OWNER, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3 All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of the Article 12 shall not exclude recovery for damages (including compensation for additional professional services) for delay by either parties.

12.4 No claim for delay shall be allowed because of failure to furnish Drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

12.5 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

ARTICLE 13 - GUARANTY:

13.1 The CONTRACTOR shall guarantee all materials and equipment furnished and Work

performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs or adjustments, in the Work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

ARTICLE 14 - PAYMENTS AND COMPLETION:

Payments to Contractors:

14.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within sixty (60) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER may retain a portion of the amount otherwise due the CONTRACTOR. Except as State law otherwise provides, the amount the OWNER retains shall be limited to the following:

14.1.1 Withholding of not more than 10 percent of the payment claimed until work is 50 percent complete;

14.1.2 When Work is 50 percent complete, reduction of the withholding to 5 percent of the dollar value of all Work satisfactorily completed to date, provided that the CONTRACTOR is making satisfactory progress and there is no specific cause for greater withholding;

14.1.3 When the Work is substantially complete (operational or beneficial occupancy), the withheld amount shall be further reduced below 5 percent to only that amount necessary to assure completion.

14.1.4 The OWNER may reinstate up to 10 percent withholding if the OWNER determines, at its discretion, that the CONTRACTOR is not making satisfactory progress or there is other specific cause for such withholding.

Contractor's Warranty of Title:

14.2 The CONTRACTOR warrants and guarantees that title to all work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the OWNER prior to the making of the Application for payment, free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens") and that no work, materials or equipment covered by an Application for Payment will have been acquired by the CONTRACTOR or by any other person performing the Work at the Site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.

Approval of Payments:

14.3 The ENGINEER'S approval of any payment requested in an Application for Payment shall constitute a representation by him to the OWNER, based on the ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the Application of Payment and the supporting data, that the Work has progressed to the point indicated; That, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval), and that the CONTRACTOR is entitled to payment of the amount approved. However, by approving any such payment, the ENGINEER shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences, and procedures of construction or that he has made any examination to ascertain how or for what purpose the CONTRACTOR has used the moneys paid or to be paid to him on account of the Contract Price, or that title to any Work, materials, or equipment has passed to the OWNER free and clear of any Liens.

14.4 The CONTRACTOR shall make the following certification on each request for payment:
"I hereby certify that the labor and materials listed on this request for payment has been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location; and payment received from the last request for payment has been used to make payments to all first tier subcontractors and suppliers except as listed below."

14.5 The ENGINEER'S approval of final payment shall constitute an additional

representation by him to the OWNER that the conditions precedent to the CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.11 have been fulfilled.

14.6 The ENGINEER may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the OWNER. He may also refuse to approve any such payment, because of subsequently discovered evidence or the results of subsequent inspections or tests nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the OWNER from loss because:

14.6.1 The Work is defective, or completed Work has been damaged requiring correction or replacement,

14.6.2 The Work for which payment is request cannot be verified,

14.6.3 Claims or Liens have been filed or there is reasonable evidence indicating the probable filing thereof,

14.6.4 The Contract Price has been reduced because of Modifications,

14.6.5 The OWNER has been required to correct defective Work or complete the Work in accordance with paragraph 13.1,

14.6.6. Of unsatisfactory prosecution of the Work, including failure to clean up as required by paragraphs 6.29 and 6.30,

14.6.7. Of persistent failure to cooperate with other contractors on the Project and persistent failure to carry out the Work in accordance with the Contract Documents,

14.6.8. Of liquidated damages payable by the CONTRACTOR or,

14.6.9. Of any other violation of, or failure to comply with, the provisions of the Contract Documents.

14.7 Prior to Substantial Completion, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the Work. Such use shall not constitute and acceptance of such portions of the Work.

14.8 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the Work, or restoration of any damaged Work, except such as may be caused by agents or employees of the OWNER.

14.9 Upon completion and acceptance of the Work, the ENGINEER shall issue a certificate attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within sixty (60) days of completion and acceptance of the Work.

14.10 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the Contract Documents by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

Acceptance of Final Payment as Release:

14.11 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this Work and for every act and neglect of the OWNER and others relating to or arising out of this Work. Any payment however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION:

Owner May Suspend Work:

15.1 The OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the CONTRACTOR and the ENGINEER which shall fix the date on which Work shall be resumed. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if he makes a claim therefore

as provided in Articles 11 and 12.

Work During Inclement Weather:

15.2 No Work shall be done under these Specifications except by permission of the OWNER when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the CONTRACTOR, upon the direction of the OWNER, shall suspend all work until instructed to resume operations by the OWNER and the Contract Time shall be extended to cover the duration of the order. Work damaged during periods of suspension due to inclement weather shall be repaired and/or replaced by the CONTRACTOR. Any compensation for repairs or replacements shall be subject to approval of the OWNER.

Owner May Terminate:

15.3 If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property; or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or he disregards laws, ordinances, rules regulations or orders of any public body having jurisdiction, or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the Contract Documents, then the OWNER may without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety seven days written notice, terminate the services of the CONTRACTOR and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the Work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR or the Surety will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a Change Order.

15.4 Where the CONTRACTOR'S services have been so terminated by the OWNER, said terminations shall not affect any rights of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys by the OWNER due the CONTRACTOR will not release the CONTRACTOR from liability.

15.5 Upon seven days written notice to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the CONTRACTOR shall be paid for all Work executed and any expense sustained plus a reasonable profit.

Removal of Equipment:

15.6 In the case of termination of this Contract before completion, for any cause whatever, the CONTRACTOR if notified to do so by the OWNER, shall promptly remove any part or all of his equipment and supplies from the property of the OWNER. Should the CONTRACTOR not remove such equipment and supplies, the OWNER shall have the right to remove them at the expense of the CONTRACTOR. Equipment and supplies shall not be construed to include such items for which the CONTRACTOR has been paid in whole or in part.

Contractor May Stop Work or Terminate:

15.7 If, through no act or fault of the CONTRACTOR, the Work is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any Application for Payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR any sum approved by the ENGINEER or awarded by court ruling within thirty (30) days of its approval and presentation, then the CONTRACTOR may, upon seven (7) days written notice to the OWNER and the ENGINEER, terminate the Agreement and recover from the OWNER payment for all Work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the Agreement, if the ENGINEER has failed to act on an Application for Payment or the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon seven (7) days notice to the OWNER and the ENGINEER stop the Work until he has been paid all amounts then due.

Owner Furnished Equipment:

15.8 In case the OWNER furnishes equipment to the CONTRACTOR to install, but fails to deliver it to the CONTRACTOR as required and in case such failure causes the CONTRACTOR additional expense or need for extension of time, the CONTRACTOR may make such claims upon the OWNER and obtain adjustments as provided herein.

Liquidated Damages:

15.9 If the CONTRACTOR shall fail to complete the work within the contract time, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the Contract Documents for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the Contract Documents.

ARTICLE 16 - DISPUTE SETTLEMENT:

16.1 All claims, disputes and other matters in question arising out of, or relating to, this Agreement or the breach thereof except for claims which have been waived by the making or acceptance of final payment as provided by paragraph 14.11, shall be decided in a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS:

17.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

17.2 If the OWNER fails to make payment sixty (60) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such progress payment, interest at 1% per month commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

17.3 All Specifications, Drawings and copies thereof furnished by the ENGINEER shall remain his property. They shall not be used on another Project, and, with the exception of those sets which have been signed in connection with the execution of the Agreement, shall be returned to him on request upon completion of the Project.

17.4 The duties and obligations imposed by these General Conditions, and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.36 and 14.3 and the rights and remedies available to OWNER and ENGINEER there under, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available by law, by special guarantee or by other provisions of the CONTRACT DOCUMENTS.

17.5 Should the OWNER or the CONTRACTOR suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employee or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

17.6 The CONTRACT DOCUMENTS shall be governed by the law of the place of the Project.

Progress Charts and Requirements for Overtime Work

17.7 The CONTRACTOR shall within 5 days or within such time as determined by the OWNER after date of commencement of work prepare and submit to the OWNER for

approval a practicable schedule, showing the order in which the CONTRACTOR proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plans and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The CONTRACTOR shall enter on the chart the actual progress at such intervals as directed by the OWNER and shall immediately deliver to the OWNER three (3) copies thereof. If the CONTRACTOR fails to submit a progress schedule within the time herein prescribed, the owner may withhold approval of progress payment estimates until such time as the CONTRACTOR submits the required progress schedule.

If, in the opinion of the OWNER, the CONTRACTOR falls behind the progress schedule, the CONTRACTOR shall take such steps as may be necessary to improve his progress and the OWNER may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or update the progress schedule to reflect increased production for meeting the completion date, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the OWNER.

Failure of the CONTRACTOR to comply with the requirements of the OWNER under this provision shall be grounds for determination by the OWNER that the CONTRACTOR is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination the OWNER may terminate the CONTRACTOR'S right to proceed with the work or any separable part thereof in accordance with the clause of the contract entitled, "Termination for Default-Damages for Delay - Time Extensions.

Should the Contractor fail to complete the work within the specified time, or within any extra time allowed under these specifications, a sum of money, determined by the following schedule, shall be deducted from any funds due the Contractor, the Owner shall have the right recover the said sum or sums from the Contractor or from the surety, or from both. The amounts of these deductions are to cover the liquidated damages to the Owner incurred by additional or other expenses due to the failure of the Contractor to complete the work or any part of the work within the time specified, and such deductions are not to be considered penalties.

The damages indicated above shall be considered as liquidated damages for the loss to the Owner on account of the expense due to the employment of Engineers and their assistants and to any others expenses incurred after the expiration of the Contract time as determined by the Engineer.

MEASUREMENT AND PAYMENT

Measurement and Payment for the following bid items shall be as described and shall include all material, equipment, labor, testing, etc. to install and make operational a complete water system as detailed on the contract drawings and as specified in the contract documents.

DUCTILE IRON, PVC and HDPE WATER SYSTEMS

Payment for item shall include furnishing and installing all pipe, trenching, compaction of required bedding and backfill excavation, disposal of excess excavated material sheeting, shoring, bracing, dewatering, testing, fittings, reducers, flushing the system and related items not specifically covered under other pay items. The contract price shall be determined by the measured distance of pipe installed and accepted per linear foot.

STEEL CASING

Payment for installation of bored or open cut steel casing shall include furnishing and installing all steel pipe, spacers, end caps, excavating, compaction of backfill, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing and related items not specifically covered under other pay items. Length shall be determined by the measured distance of casing pipe installed and accepted per linear foot.

CONNECTION ITEMS

Payment for connection items shall include installation of reducers, fittings, valve boxes, trenching, excavation, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring bracing, dewatering, testing, flushing and related items not specifically covered under other pay items as depicted on the construction plans. Pay shall be determined per each.

GATE VALVES

Payment for installation of gate valves shall include furnishing gate valves, valve boxes, trenching, excavating, compaction of backfill, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items as depicted on the construction plans. Pay shall be determined per each.

FIRE HYDRANT WITH APPURTENANCES

Payment for installation of fire hydrant with appurtenance shall include furnishing fire hydrant, gate valve, valve box, piping, trenching, excavating, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items. Pay shall be determined per each to include fire hydrant, tees, gate valve, valve box, pipe and other miscellaneous items as required to provide an operational hydrant. Pay shall be determined

per each.

FIRE SUPPRESSION CONNECTION

Payment for installation of fire suppression connection with appurtenance shall include furnishing tee, gate valve, valve box, piping, disconnection from existing system, connection to new system, trenching, excavating, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring, bracing, dewatering, testing, flushing and related items not specifically covered under other pay items. Pay shall be determined per each to include tees, gate valve, valve box, pipe and other miscellaneous items as required to provide an operational fire suppression connection. Pay shall be determined per each.

SERVICE TAP

Payment for residential or commercial service tap shall include all fittings, corporation stop, curb stop, tubing, materials, labor and equipment to provide a new water service. Item shall include connection from new water line to existing water meter to remain. Completion of item shall be a fully functional water service. Item shall be paid per each.

SERVICE TUBING (BORED):

Payment for installation of service tubing bored shall include furnishing and installing service tubing under existing asphalt, concrete or other area determined by the engineer to remain in place. Item shall include all boring, excavating, compaction of backfill, disposal of excess excavated material etc to install service tubing as bored. Pay shall be measured from edge to edge of existing concrete or asphalt and paid per linear foot.

RESIDENTIAL METER

Payment for residential meter shall include all components, labor and equipment for a fully operational water meter. Meter shall meet the requirements of the plans and specifications and function fully within the existing system. Item shall include meter, box and any necessary fittings and shall be paid per each.

REMOVAL OF FIRE HYDRANT WITH APPURTENANCES

Payment for removal of fire hydrant with appurtenance shall include removal of existing fire hydrant, gate valve, piping, trenching, excavating, compaction of backfill, blocking, disposal of excess excavated material, sheeting, shoring, bracing, dewatering and related items not specifically covered under other pay items to fully remove an existing fire hydrant. Pay shall be determined per each to include fire hydrant, tees, gate valve, pipe and other miscellaneous items as required to remove, secure and transport to an area designated by the owner. Pay shall be determined per each.

ABANDONMENT OF EXISTING WATER MAIN

Payment for item shall include furnishing and installing flowable fill concrete in designated pipe locations as shown on the construction drawings to abandon existing water line pipe. Pay shall include all pumping, concrete, plugs, etc to fully fill the abandoned water main. The contract price shall be determined by the measured

distance of pipe abandoned and accepted per linear foot.

REMOVE AND RESET EXISTING STORM DRAIN

Payment for item shall include removal of existing storm sewer components to allow installation of the water system components. Item shall include all materials, labor, and equipment necessary to remove existing structures without damage and reset in the proper location. Should damage to the existing drainage structure be the result of improper removal, a new structure shall be provided by the contractor at no cost to the owner. The contract price shall be determined by the percentage of the project complete and paid by lump sum.

SELECT FILL MATERIAL:

Payment for installation of select fill shall include furnishing and installing granular material as specified in the contract documents and as directed by the Engineer. The unit measurement shall be loose vehicular measurement, L.V.M. Pay shall be determined per cubic yard.

ASPHALT PAVEMENT REPAIR

Payment for asphalt repair shall include furnishing and installing asphalt pavement as specified in the plans and specifications. Item shall include material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per ton.

CONCRETE PAVEMENT REPAIR

Payment for concrete pavement repair shall include furnishing and installing concrete pavement as specified in the plans and specifications. Item shall include forming, material, haul, placement compaction and testing necessary to meet the plans and specifications. Payment shall be per square yard.

CONCRETE CURB AND GUTTER

Payment for concrete curb and gutter shall include removal, grading, forming, materials, placement, compaction and testing necessary to match existing curb and gutter. Item shall be paid per linear foot.

TEMPORARY EROSION CONTROL

Payment for erosion control shall include furnishing, installing and maintaining silt fence or other erosion control measures as required by current Mississippi Department of Environmental Quality standards. Erosion control measures shall be installed and maintained as planned by the contractor or as directed by the Engineer to prevent erosion under or excess siltation within 24 hours of a rain event. The unit measurement shall be lump sum and includes any required maintenance.

GRASSING

Basis of payment shall include the vegetation schedule as noted and shall be according

to the Mississippi Standard Specifications for Road and Bridge Construction, Latest Edition. The unit of measurement shall be lump sum.

MAINTENANCE OF TRAFFIC

Payment for maintenance of traffic will be lump sum. Item shall include all materials, labor and equipment to maintain traffic based on the current MUTCD or as required by the Engineer.

MOBILIZATION

Payment for mobilization shall enable contractor to assemble materials, equipment, etc. on site to prepare for construction. The unit measurement shall be lump sum. Mobilization shall be paid 50 percent at 5 percent of construction complete and 100 percent at 25 percent of construction complete.

WATER SYSTEMS

1) GENERAL

- a) This item shall consist of furnishing all of the necessary materials, supervision, labor, tools, equipment and incidentals, and the installation of various types and sizes of water pipe and related items in accordance with the contract drawings and specifications, as stated in the Proposal.

2) APPLICABLE PUBLICATIONS

- a) The following publications form a part of these specifications and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work.

i) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A 139 Electric-Fusion (Arc) welded steel pipe (sizes 4 inch and over).

A 252 Welded and Seamless steel pipe piles.

C 31 Making and Curing Concrete Compressive and Flexural Strength Test Specimens in the Field.

C 33 Concrete Aggregates

C 39 Test for Compressive Strength of Cylindrical Concrete Specimens.

D 2922 Density of Soil Aggregate in place by the clear Method (shallow depths).

ii) AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

21.10 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch for Water and other Liquids.

21.11 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.

21.50 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-line Molds, for Water or other Liquids.

iii) AMERICAN WATER WORKS ASSOCIATION (AWWA)

C 104 Cement-Mortar Lining for Cast Iron Pipe and Fittings for Water and Other Liquids.

C 106 Cast Iron Pipe Centrifugally Cast in Metal Molds, for water and other Liquids.

C 110 Gray Iron and Ductile Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids.

C 111 Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.

C 150 Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or other Liquids.

iv) AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO)

T-88 Particle Size Analysis of Soils.

T-89 Determining the Liquid Limit of Soils.

T-90 Determining the Plastic Limit and Plasticity Index of Soils.

T-99 Moisture Density Relations of Soils Using a 5.5 lb. Rammer and 12 inch Drop.

T-191 Density of Soil In-Place by the Sand-Cone Method.

v) MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Standard Specifications for Road and Bridge Construction 1990 Edition.

3) **SUBMITTALS**

a) The following submittals shall be required for the respective materials used in the work. All submittals shall be submitted through the Contractor to the Engineer.

i) Ductile Iron Pipe: The following submittals shall be required for ductile iron pipe systems utilized on the project. The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements as specified hereinafter under Article 4.0, Materials. In addition, the submittals shall include the following:

(1) Joints: The following shall be required for ductile iron joints.

(2) Drawings or Manufacturer's Catalogue data indicating dimensions and tolerance.

(3) Gaskets shall be tested in accordance with the respective standards as indicated in ANSI 21.11 and results shall be included in the submittals. Test shall be for similar materials on the gaskets and be not more than one year old.

(4) Mechanical Joints: Should the Contractor elect to use mechanical joints in lieu of push-on joints, manufacturer's data shall be submitted in accordance with the "Special Requirements for the Mechanical Joint" as stated in ANSI 21.11 (AWWA C 111).

ii) Ductile Iron Pipe Submittal Shall Include the Results of:

(1) Tension Test

(2) Impact Test

(3) Low Temperature Impact Test

Sampling procedure shall be as indicated in ANSI 21.51.

- b) PVC Pipe: The Contractor shall furnish manufacturer's certificates certifying that the pipe and fittings conform to the requirements of these specifications and appropriate construction drawings.

4) MATERIALS - WATER SYSTEM

a) Ductile Iron Pipe:

- i) Ductile iron pipe shall be designed in accordance with the latest revision of ANSI/AWWA C51/A21.51, rated working pressure of 350 psi plus a 100 psi surge allowance; a 2 to 1 safety factor on the sum of working pressure plus surge pressure in Type 3 laying condition with a depth of cover as required per plans.
- ii) Pipe shall have standard asphaltic coating on the exterior. Pipe also shall have a cement mortar lining on the interior in accordance with the latest revision of ANSI/AWWA C104/A21.4. If corrosion protection is required, polyethylene encasement shall be installed prior to the pipes installation in accordance with ANSI/AWWA C105/A21.5-88.
- iii) All non-restrained pipe shall be furnished with push-on type joints such as "Fastite," or equal. Joints shall be in accordance with the latest revision of ANSI/AWWA C111/A21.11 and shall be furnished complete with all necessary accessories.
- iv) Where restrained joint pipe is required, "Fast Grip", "Flex-Ring", or "Field Flex-Ring" or approved equal shall be used. The length of restrained pipe shall be as tabulated or noted on the plans.
- v) Ductile iron fittings shall conform to the latest revisions of either ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53. Fittings, linings, and coatings shall be as specified for the pipe above.
- vi) All pipe, fittings and accessories shall be installed and tested in accordance with the latest revision of AWWA C600. Newly installed ductile iron water mains shall be disinfected in accordance with the latest revision of AWWA C651 prior to placing in service.

b) PVC Pipe

- i) PVC pipe for this project shall be PVC, C-900, Class 200. This standard covers the installation of Pressure Class 100, 150 and 200 PVC pipe complying with AWWA Standard C-900-89. PVC pipe shall bear the National Sanitation seal for potable water.
- ii) The pipe shall be equipped with a push on joint in a single elastomeric gasketed joint. It is assembled by positioning the elastomeric gasket in the annular groove of the bell and inserting the spigot end of the pipe into the bell. The spigot end of the pipe compresses the gasket radially to form a positive seal. The gasket and annular groove are designed, sized and shaped so that the gasket will resist displacement. Care shall be taken so that only the correct elastomeric gasket, compatible with the annular groove of the bell, is used. Insertion of the elastomeric gasket in the annular groove of the bell must be in accordance with the manufacturer's recommendations.

c) Gate Valves:

- i) Where indicated on the Plans or directed by the ENGINEER, the CONTRACTOR shall furnish and install gate valves as hereinafter specified.
- ii) All gate valves shall be cast iron mechanical joint, Mueller A-2360, equivalent or better. All gate valves shall be furnished with O-ring packing and 2" square operating nut, AWWA 200lb., for cast iron water main.
- iii) Valve boxes shall be cast iron top and bottom. Extension pieces shall be provide as required.
- iv) Payment for furnishing and installing gate valves with box shall be made at the contract unit price per valve according to type and size as listed in the proposal.
- v) All valves will be set at a perfect 90 degree angle from level pipe, (perpendicular) so as to be easily accessible through properly set valve box as per specifications above.
- vi) The CONTRACTOR shall furnish and install either a two-piece or three-piece, slip type, cast iron valve box over each gate valve. Valve boxes will be set over valve operating nut, centered so as to be easily accessible with a valve operating wrench or key. They will be set to correspond with the finished grade of street, lot, or easement. No dirt will be left in box; box will not rest directly on valve body.

d) Fittings, Valves and Hydrants, etc.

- i) All fittings, valves and valve boxes, hydrants, and other appurtenances are to be set at the points indicated on the plans, or as directed by the ENGINEER, and omission to do so shall be corrected by the CONTRACTOR without extra cost to the OWNER.
- ii) All fittings shall either be Ductile Iron Compact (ANSI/AWWA C153/A21.53) or Cast Iron (ANSI/AWWA-C110/A21-10) and shall have mechanical joint ends and mechanical joint restraints (Series 1120) and shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A 536-80. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices.
- iii) The mechanical joint restraint device shall have a working pressure of a least 250 psi with a minimum safety factor of 2:1 and shall be EBAA Iron., MEGALUG or equal.
- iv) To improve the sealing capacity, the gaskets for all mechanical joints conforming to the requirements of ANSI/AWWA C110/A/21.10, C111/A21.11, or C153/A21.53 shall be of a design that causes the gasket to deflect approximately 30% during assembly of the mechanical joint. The gasket material shall conform to the requirements of ANSI/AWWA C111/A21.11, Section 1-6.4 of the latest revision. Mechanical joint gaskets shall be EBAA Iron's EBAA Seal- Improved Mechanical Joint Gasket or approved equal.
- v) Fittings (bends, tees, plus, and caps) shall be securely braced by mechanical joint restraints, as

indicated on the Plans, to prevent the possibility of blowing off under pressure. And a full length of pipe shall be installed on each end of the fitting. Then cut pieces can be installed beyond the full lengths of pipe.

- vi) The prices bid furnishing and installing valves, fittings, etc., shall include compensation for furnishing mechanical joint restraints as required at beds, tees, plugs and caps. No separate or extra compensation will be allowed for any of the above specified incidental work or material.

e) Plugs and Caps

- i) Where indicated on the Plans, or as directed by the ENGINEER, the CONTRACTOR shall install plugs for anticipated future extensions by placing a branch fitting (tee or cross) in the line and plugging the unused branch or branches. In general, such plugs will be located at street intersections where present plans provided lines running in only two or three directions from the intersections and where, in the opinion of the ENGINEER, a connection may be required for future extension. Where "deadend" lines are installed, the ends of such lines shall be plugged or capped as required.
 - ii) For the various hot taps required according to the plans, and up to 12 inches, the JCM 432, stainless Tapping Sleeve shall be required. The CONTRACTOR shall furnish all materials for these various taps and the OWNER will actually make the tap.
- f) Casing Pipe: Steel pipe utilized as casing at locations shown on the Contract Drawings shall be new round piling pipe conforming to the requirements of ASTM A 252 or A 139. Casing diameter shall be adequate to allow pushing of the specified diameter of water pipe and make proper connections at the ends. Minimum Wall Thickness for steel casing is 0.375 inch.
- g) Wash Gravel Bedding Material: Select Granular material for pipe bedding shall be coarse concrete aggregate. The coarse concrete aggregate shall conform to the gradation sizing Number 467 specified in Table 2 of ASTM Standard Specification C-33. (See Following Table.)

SIZE No. 467

Nominal Size (Sieves w/Square Openings)	Percent Passing by Weight
2"	100
1-1/2"	95—100
3/4"	35—70
3/8"	10—30
No. 4	0—5

- h) Stabilization Material: Stabilization Material shall be a pit run mixture of sand and gravel. The sand shall be hard, sharp and durable particles. All gravel shall pass a 1 - 1/2" sieve.
- i) Concrete: Concrete shall be in accordance with the requirements of Technical Specifications - CONCRETE.
- j) Select Backfill
 - i) General: The select material shall be composed of a natural or artificial mixture of sand, silt,

clay or soil binder or other material of satisfactory cementing value. The sand shall be hard, sharp, and durable particles, preferably siliceous. The binder shall be a grade of clay or other material having satisfactory cementing qualities and shall be homogenous in character, free from vegetable matter, clay balls or other deleterious substances that cannot be classed as serviceable base material.

- ii) Gradation : Any coarse aggregate contained in the material shall pass the one and one-half (1-1/2); sieve and not more than thirty-five percent (35%) shall be retained in the Number 10 sieve. The plasticity index (P.I.) shall not exceed 12, nor shall the liquid limit exceed 30.
- iii) The composite selected sand-clay material passing the Number 10 sieve shall conform to the following minimum and maximum gradation limits:

Sieve	Percent Passing by Weight
Number 40	40—85
Number 60	30—70
Number 270	8—30
Silt (.05 to .005 mm)	03—15
Clay (Passing .005 mm)	3--15

- iv) Backfill: All other backfill shall consist of excavated material removed from the trench.

5) CONSTRUCTION

a) Earthwork

i) Site Preparation:

(1) Topsoil shall be stripped and stockpiled in accordance with Technical Specifications - Restoration of Roads, Driveways, Fences, Lawns, and other Grassed Areas.

(2) All vegetation such as brush, heavy sod, heavy growth of grass, decayed vegetative matter, rubbish and any other unsuitable material within the area of trenching shall be stripped or otherwise removed before the trenching is started, and in no case shall such objectionable material be allowed in the trench.

(3) Stripping operation shall be to a depth of not less than 6 inches in all cases.

b) Asphalt or Concrete Removal: Before trenching operations begin, the existing asphalt or concrete pavement shall be scored or cut to a proper depth to give a straight vertical edge when removed. The asphalt or concrete shall be disposed of offsite by the Contractor. While removing the asphalt or concrete in the trench line, never shall the adjacent asphalt be raised or pulled from its base.

c) Trenching:

- i) The Contractor shall determine all requirements for trench dimensions, alignment, and grades. The trench shall be excavated in conformance with all federal, state and local regulations for the protection of the workmen. Shoring, sheeting and/or a moveable form shall be used as required to provide earth stability during the laying operations.

- ii) The final excavation of the trench for the pipe installation shall be as indicated on the Plans. Minor variations in horizontal (within the permanent easement) or vertical alignment during construction shall be made during construction (with the Engineer's approval) to facilitate ease of installation and operation (due to potential conflicts; i.e., utility conflict) at no additional cost to the Owner except for additional piping, if any. The trench from the top of the pipe down to the bottom of the bedding shall be of a consistent width as indicated on the plans. Should the excavated width of the trench be larger than the design width, the Engineer may direct that a higher type or class of bedding be used; or other adjustments be made to increase the load carrying capacity of the pipe.
- iii) The Contractor shall not excavate more trench in advance of pipe laying than is necessary to perform the work efficiently. No more than 100 feet of open trench shall be allowed unless approved by the Engineer.
- iv) Excavated material shall be placed in a manner that will not obstruct sidewalks, driveways, or other structures. Excavated material shall not be placed so as to surcharge the walls and jeopardize trench stability.

d) Disposal:

- i) The Contractor shall satisfactorily dispose of all excess earth from excavations either in approved (by the Engineer) areas within the construction limits or away from the project in disposal sites obtained by the Contractor.
- ii) The Contractor will be permitted to mound excess earth over the trench to a maximum depth of 12 inches above the original ground surface or finished grade where the trench is located in unimproved property. Wasting of excess excavated material will not be permitted within any road ROW. All material within the construction limits shall be placed so that natural drainage is maintained and the surface shall be graded to a smooth and uniform appearance. The disposal of waste and excess excavating materials, including hauling, handling, grading, and surfacing shall be subsidiary obligation of the contractor and no separate payment will be made. Therefore, the cost of such work shall be included in the Contract Unit Price for installation of water pipe.

e) Dewatering

- i) The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches and dikes and shall perform all pumping and other work necessary to divert or remove rainfall and other accumulations of surface water from the excavations. The diversion and removal of surface water performed in a manner that will prevent the accumulation of water behind temporary structures or at any other locations within the construction area where it may be detrimental. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hoses, piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least one foot below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of one foot below the lowest excavation subgrade made until the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures.
- ii) Where groundwater is encountered, the Contractor shall make the effort necessary to secure a dry trench bottom before laying pipe. In sandy and in other suitable type soils, dewatering

shall be done by well pointing. If, in the opinion of the Engineer, the Contractor has failed to obtain an absolutely dry trench bottom by insufficient use of all known methods of trench dewatering, the Engineer may order the Contractor to excavate below grade and place not less than 6 inches of graded crushed stone fill material over the trench bottom to form trench drains to suitably located sumps and to remove the water by bailing or pumping. The graded crushed stone fill material shall be placed at the Contractor's own expense and shall be of such depth that there shall be not water in bell holes at the time of coupling pipe. All costs of equipment, labor, and materials required for dewatering shall be included in the bid price.

f) Bedding

- i) The Contractor shall satisfactorily shape the trench area (to specified line, grade and cross section) to receive bedding material. The bottom of the trench shall be undisturbed soil. Should the Contractor over excavate the trench without direction from the Engineer, the trench shall be brought up to grade with select backfill and compacted to at least 90% of maximum laboratory density as measured by AASHTO T 99. Such additional work and materials for over excavation without direction of the Engineer shall be at the expense of the Contractor.
- ii) Holes for the bells shall be provided at each joint in the subgrade or in the granular fill bedding material as required. The holes shall be no larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the material. The Contractor shall install the proper bedding for the respective type of pipe and depth of installation as shown in the details and schedules on the plans. When depths vary in a particular manhole run, the Contractor shall change bedding systems in accordance with the depth installation requirements.
- iii) Stabilization Materials: When the subgrade is found to be unstable or to include ashes, refuse, organic material, or other unsuitable material, the Engineer may direct that the subgrade be over excavated to remove such material. The depths of over excavation shall be as directed by the Engineer. Stabilization material shall be placed into the over excavated area of the trench and shall be paid for in accordance with these specifications. Stabilization shall be compacted to at least 90% of maximum laboratory density in six inch lifts.
- iv) Bedding Materials
 - (1) As detailed in the plans, bedding material shall be placed to the specified depth below the pipe and tamped to a minimum of 90% of maximum laboratory density as determined in accordance with AASHTO T 99. Following placement of pipe, additional bedding material shall be placed and consolidated under the haunches of the pipe. Special tools shall be required to work the material into place and leave no voids beneath the pipe. The bedding material shall be tamped along the spring line (or along the top of the bedding material as indicated) of the pipe to sufficiently compact the material insofar as practical.
 - (2) The Engineer may direct additional moisture be added to the bedding material to aid in the compaction effort. Mechanical tampers may be employed to aid the process. depending on the particular bedding required, additional bedding shall be added and tamped to a minimum of 90% of maximum laboratory density, with AASHTO T-99.
- v) Select Backfill: Select backfill shall be placed in 6 inch lifts and tamped to a minimum laboratory density with AASHTO T-99. Overall depth of the select backfill shall be as directed by the Engineer.

- vi) Normal Condition Bedding: Under normal conditions the trench bottom shall be undisturbed earth shaped to the specified line, grad, and cross section with proper bell holes at each joint to insure that pipe barrel lies flat on trench bottom. The bedding material will be selected native materials excavated from the trench and placed in two lifts. The first lift being placed up to the spring line of the pipe and extending out to the trench walls and hand tamped to a minimum of 90% of maximum laboratory density. Special care shall be used in placing and tamping bedding to insure no voids under the haunches of the pipe. The second lift shall extend to approximately 6" above pipe (Material permitting) and hand tamped to 90% density.
- g) Backfilling: Upon completion of placement of select material the excavated materials shall be immediately placed back into the trench. Specific requirements are:
- i) Backfill requirements for road crossings, parking lots, driveways, and sidewalks shall be in accordance with Technical Specifications - RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS and OTHER GRASSED AREAS.
 - ii) Backfill requirements for unimproved areas (pastures, wooded areas) shall consist of placement and shaping of the soil in such a manner as to allow maximum natural consolidation. No compaction of the general backfill in the unimproved areas will be required, except that caused by conventional shaping equipment.
 - iii) No debris shall be used as backfill which has a volume in excess of one-half of one cubic foot or weight excess of 75 pounds.
- h) Sheeting Removal: Wooden sheeting or other thick sheeting or shoring members which have been driven or otherwise placed along the trench walls to an elevation below the spring line of the pipe shall be cut off at the spring line or higher and left in place.
- i) Grading and Grassing: Final grading and grassing shall be in accordance with Technical Specifications, "RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS, and OTHER GRASSED AREAS."
- j) Pipe Handling and Storage: Pipe shall be handled, staked, and stored in accordance with manufacturer's printed literature. The Contractor shall provide security as required to prevent damage by vandals. PVC pipe shall be shaded from sunlight for extended lengths of time. Pipe damaged during storage and handling shall be rejected.
- k) Pipe Laying
- i) Each pipe shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the water shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. Trenches shall be kept free of water and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At times when work is not in progress, open ends of pipe and fittings shall be securely and satisfactorily closed so that no trench water earth or other substance will enter the pipe or fittings.
 - ii) The water main shall maintain a minimum of 30 inches of cover at all times.

- iii) Pipe laying shall be performed in such a manner that no foreign material enters the pipe. The Engineer may require that before lowering pipe, heavy canvas bags be placed over each end, and left in place until joints are ready to be made. If water is in the trench, the seals shall remain in place until the trench is pumped completely dry. If conditions are unsuitable, no pipe shall be laid until satisfactory laying conditions are obtained in accordance with the above specified requirements.
 - l) Pipe Jointing: Piping shall be jointed in accordance with the manufacturer's printed recommendations. Gaskets shall be firmly set within the bells and grooves as required. The manufacturer's recommended lubricant or an approved equal shall be applied for slip type joints.
 - i) Ductile Iron Pipe Joint Construction: The installation and jointing of ductile iron pipe shall generally conform to the applicable provisions of AWWA Standard Specifications C-600 for pipe laying.
 - ii) Where mechanical joint pipe is used, the surfaces which come in contact with the gasket shall be thoroughly brushed with a wire brush just prior to assembly. The gasket should be brushed with soapy water prior to installation to remove loose dirt and to lubricate gasket as it is forced into its retaining space.
 - iii) When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly. The bolts should be partially tightened; the bottom bolt first, then the top; next the bolts on either side; and last, the remaining bolts. Overstressing of bolts to compensate for poor installation will not be permitted. Bolt torque shall be in accordance with manufacturer's specifications.
 - iv) All joints of whatever type shall be completely water tight after being subjected to the required tests.
 - m) Borings: Borings shall be accomplished in accordance with Mississippi State Highway Department Standards. The contractor shall provide all necessary sheeting, bracing, cribbing, supports and appurtenances to insure the proper line and grade throughout the entire length of the crossing.
 - i) Casing Pipe: Casing Pipe shall be installed as indicated on the Contract Drawings. Joints shall be completely welded to provide structural integrity and shall be watertight.
 - ii) Carrier Pipe: Carrier pipe may be any of the allowed options of piping. However, the piping and joints shall be capable of withstanding the stress exerted by pushing the pipe within the casing.
 - iii) Carrier Pipe Supports: Supports for the carrier pipe shall be as recommended by the manufacturer for such installation. Supports shall be spaced to adequately support the piping under all conditions.
 - iv) Casing Seal: The annulus between the casing and carrier pipe shall be sealed at each end by installing WMSON Type U end seals, as manufactured by T.D. Williamson, Inc. Tulsa, Oklahoma, or equal, in accordance with the instructions of the manufacturer of the seals.
- 6) **SEPARATION of WATER and SEWER MAINS:** The water and sewer specifications should state that the water line be constructed no less than 10 feet horizontally and 18" vertically with water line

over sewer line. If those conditions cannot be met then they will be decided on a case by case basis.

7) TESTING

a) Ductile Iron Pipe

i) Field Inspection: The Engineer shall perform visual inspection of the material prior to placement by the Contractor. The Engineer may make non-destructive tests to determine the soundness of the pipe. The Contractor shall assist the Engineer in handling and moving the pipe as required.

ii) Material Test: Material test shall be conducted during the manufacturing process and the results shall be included as part of the submittals. No other material test shall be required.

b) Steel Casing Pipe Material test shall be included as part of the submittal. No other material test shall be required.

c) Compaction Tests

i) Compaction tests shall be performed in accordance with AASHTO T 191 or ASTM D 2922. Maximum compaction shall be determined in accordance with AASHTO T 99.

ii) Compaction tests for water pipe related work shall not be less than as follows:

NUMBER of COMPACTION TESTS AASHTO T-99, AASHTO T-191, or ASTM D 2922		
Stabilization Material	1	One per 100 C.Y.
Bedding material	2	One per 600 L.F.
Tamped Backfill	2	One per 600 L.F.

d) Hydrostatic Testing

i) After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 times the working pressure at the point of testing and not less than 1.25 times the working pressure along the test section, for a minimum of 2 hours.

ii) And all tests shall be in accordance with AWWA Standard C600, Section 4.

iii) Allowable leakage shall be no more than that determined by the following formula:

$$L = \frac{SD \sqrt{P}}{133,200}$$

iv) In which L is the allowable leakage in gallons per hour; S is the length of pipe tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test in pounds per square inch.

v) These tests are to be made at the Contractor's expense and he is to provide all necessary fittings, equipment, appliances and any other necessary items to conduct the tests in a manner satisfactory to the ENGINEER. All costs incidental to conducting these tests are to be included

in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore. Record of testing is to be furnished to the OWNER.

8) CLEANING and STERILIZING

- a) Before each section of work is placed in service, it shall be thoroughly flushed to remove any dirt or other foreign material from inside the lines; and the inside of the lines shall be sterilized by pumping into and through them a solution of chlorine of 50mg/l for 24 hours in such manner as to meet the requirements of the State Board of Health.
- b) At least two (2) samples of chlorine free water, taken from each section shall be submitted to the State Board of Health for examination to determine if the system is free from organisms of the Coli-Aerogenes group. If such samples are not negative from organisms of the Coli-Aerogenes group, the system shall be disinfected and re-disinfected in a manner meeting the requirements of the State Board of Health, until the system is freed of contamination.
- c) All water mains will be flushed, chlorinated and re-chlorinated until two (2) consecutive negative water samples are obtained by the Local Health Department. The samples shall be collected by the Certified Operator of the system or the Professional Engineer of the project.
- d) The CONTRACTOR shall be responsible for the conduct of all of the above defined activities, and any and all costs incident thereto shall be included in the prices bid for the various items of construction as no separate or extra compensation is to be allowed therefore.

9) WATER SERVICE

- a) Service pipe shall be 3/4" Polyethylene Plastic tubing meeting the following specifications:
 - i.) 200 PSI and complying with AWWA standards when tested by methods ASTM 1599, copper tube size (O.D.) suitable for use with standard heavy duty waterworks brass flare fittings.
 - ii.) Tubing shall comply with the standards and bear the seal of the National Sanitary Foundation.
 - iii.) All connections and fittings shall be Ford brand.

10) TRACER WIRE

a) Materials

1. General

- i.) All trace wire and trace wire products shall be domestically manufactured in the U.S.A.
- ii.) All trace wire shall have HDPE insulation intended for direct bury, color coated per APWA standard for the specific utility being marked, green for Sewer.

2. Trace wire

- i) Open Trench - Trace wire shall be #12 AWG Copper Clad Steel, High Strength with minimum 450 lb. break load, with minimum 30 mil HDPE insulation thickness.
- ii) Directional Drilling/Boring - Trace wire shall be #12 AWG Copper Clad Steel, Extra High Strength with minimum 1,150 lb. break load, with minimum 30 mil HDPE insulation thickness.
- iii) Pipe Bursting/Slip Lining - Trace wire shall be 7 x 7 Stranded Copper Clad Steel, Extreme Strength with 4,700 lb. break load, with minimum 50 mil HDPE insulation thickness.

3. Connectors

- i.) All mainline trace wires must be interconnected in intersections, at mainline tees and mainline crosses. At tees, the three wires shall be joined using a single 3-way lockable connector. At Crosses, the four wires shall be joined using a 4-way connector. Use of two 3-way connectors with a short jumper wire between them is an acceptable alternative.
- ii.) Direct bury wire connectors – shall include 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon filled to seal out moisture and corrosion, and shall be installed in a manner so as to prevent any uninsulated wire exposure.
- iii.) Non locking friction fit, twist on or taped connectors are prohibited.

4. Termination/Access

- i.) All trace wire termination points must utilize an approved trace wire access box (above ground access box or grade level/in-ground access box as applicable), specifically manufactured for this purpose.
- ii.) All grade level/in-ground access boxes shall be appropriately identified with "water" cast into the cap and be color coded.
- iii.) A minimum of 2 ft. of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
- iv.) All trace wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the trace wire connection and the terminal for the grounding anode wire connection.
- v.) Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.
- vi.) Service Laterals - Trace wire must terminate at an approved grade level/inground trace wire access box, located at the edge of the road right-of-way, and out of the roadway.
- vii.) Hydrants – Trace wire must terminate at an approved above-ground trace wire access box, properly affixed to the hydrant grade flange. (affixing with tape or plastic ties shall not be acceptable)

- viii.) Long-runs, in excess of 500 linear feet without service laterals or hydrants - Trace wire access must be provided utilizing an approved grade level/in-ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway. The grade level/in-ground trace wire access box shall be delineated using a minimum 48" polyethylene marker post, color coded per APWA standard for the specific utility being marked.

5. Grounding

- i.) Trace wire must be properly grounded at all dead ends/stubs
- ii.) Grounding of trace wire shall be achieved by use of a drive-in magnesium grounding anode rod with a minimum of 20ft of #12 red HDPE insulated copper clad steel wire connected to anode (minimum 1.5 lb.) specifically manufactured for this purpose, and buried at the same elevation as the utility.
- iii.) When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance.
- iv.) When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with a mainline to lateral lug connector.
- v.) Where the anode wire will be connected to a trace wire access box, a minimum of 2 ft. of excess/slack wire is required after meeting final elevation.

b. Installation

1. General

- i.) Trace wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512Hz) signal for distances in excess of 1,000 linear feet, and without distortion of signal caused by multiple wires being installed in close proximity to one another.
- ii.) Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.
- iii.) Any damage occurring during installation of the trace wire must be immediately repaired by removing the damaged wire, and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.
- iv.) Trace wire shall be installed at the bottom half of the pipe and secured (taped/tied) at 5' intervals.
- v.) Trace wire must be properly grounded as specified.
- vi.) Trace wire on all service laterals/stubs must terminate at an approved trace wire access box located directly above the utility, at the edge of the road right-of-way, but out of the roadway. (See Trace wire Termination/Access)

- vii.) At all mainline dead-ends, trace wire shall go to ground using an approved connection to a drive-in magnesium grounding anode rod, buried at the same depth as the trace wire. (See Grounding)
- viii.) Mainline trace wire shall not be connected to existing conductive pipes. Treat as a mainline deadend, ground using an approved waterproof connection to a grounding anode buried at the same depth as the trace wire.
- ix.) All service lateral trace wires shall be a single wire, connected to the mainline trace wire using a mainline to lateral lug connector, installed without cutting/splicing the mainline trace wire.
- x.) In occurrences where an existing trace wire is encountered on an existing utility that is being extended or tied into, the new trace wire and existing trace wire shall be connected using approved splice connectors, and shall be properly grounded at the splice location as specified.

2. Water System

- i.) A mainline trace wire must be installed, with all service lateral trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point.
- ii.) Lay mainline trace wire continuously, by-passing around the outside of valves and fittings on the North or East side.
- iii.) Trace wire on all water service laterals must terminate at an approved trace wire access box color coded blue and located directly above the service lateral at the edge of road right of way.
- iv.) Above-ground tracer wire access boxes will be installed on all fire hydrants.
- v.) All conductive and non-conductive service lines shall include tracer wire.

c. Prohibited Products and Methods

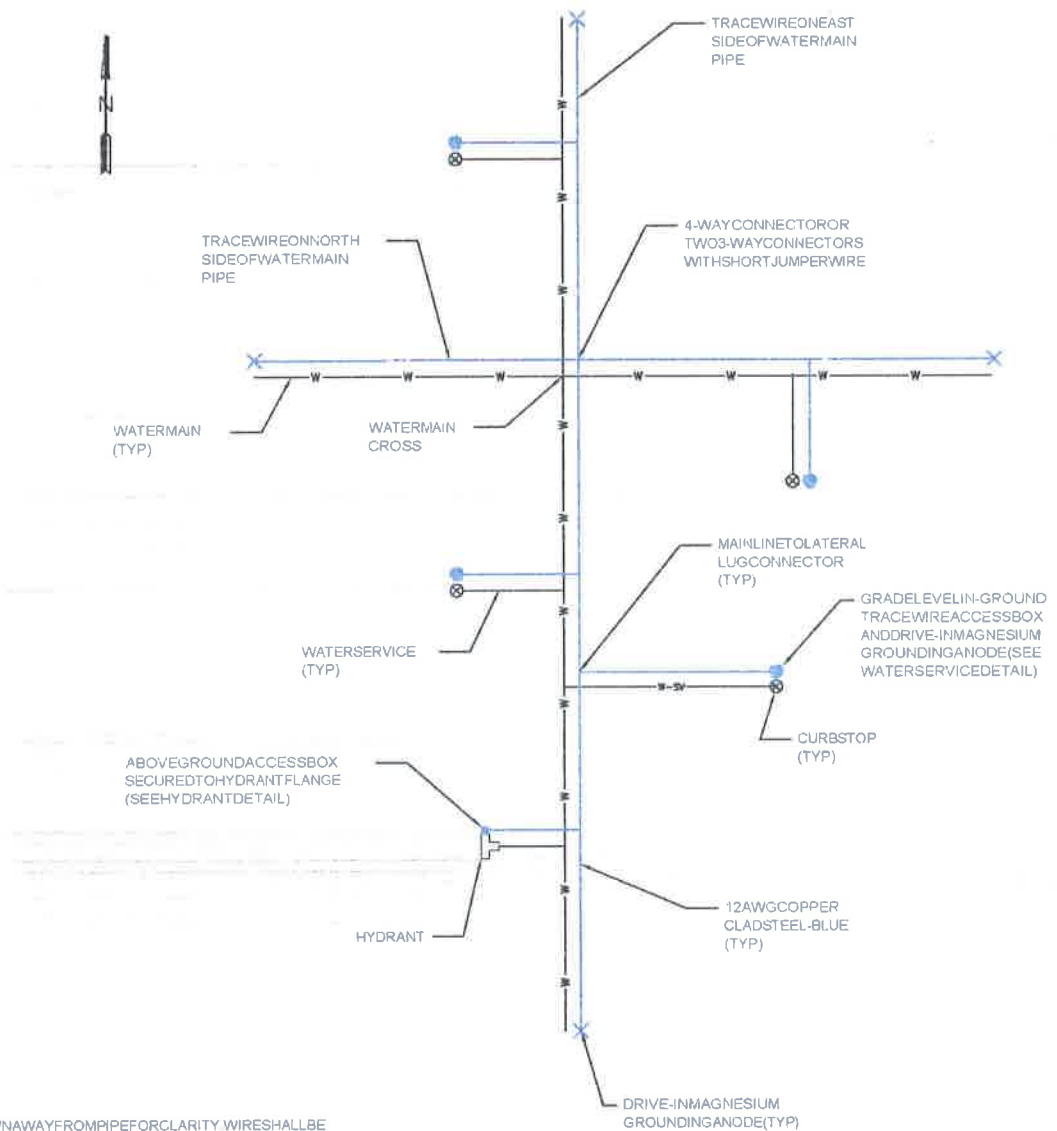
- 1. The following products and methods shall not be allowed or acceptable
 - i.) Uninsulated trace wire
 - ii.) Trace wire insulations other than HDPE
 - iii.) Trace wires not domestically manufactured
 - iv.) Non locking, friction fit, twist on or taped connectors
 - v.) Brass or copper ground rods
 - vi.) Wire connections utilizing taping or spray-on waterproofing
 - vii.) Looped wire or continuous wire installations, that has multiple wires laid side-by-side or in close proximity to one another
 - viii.) Trace wire wrapped around the corresponding utility
 - ix.) Brass fittings with trace wire connection lugs

x.) Wire terminations within the roadway, i.e. in valve boxes, cleanouts, manholes, etc.

xi.) Connecting trace wire to existing conductive utilities

d. Testing

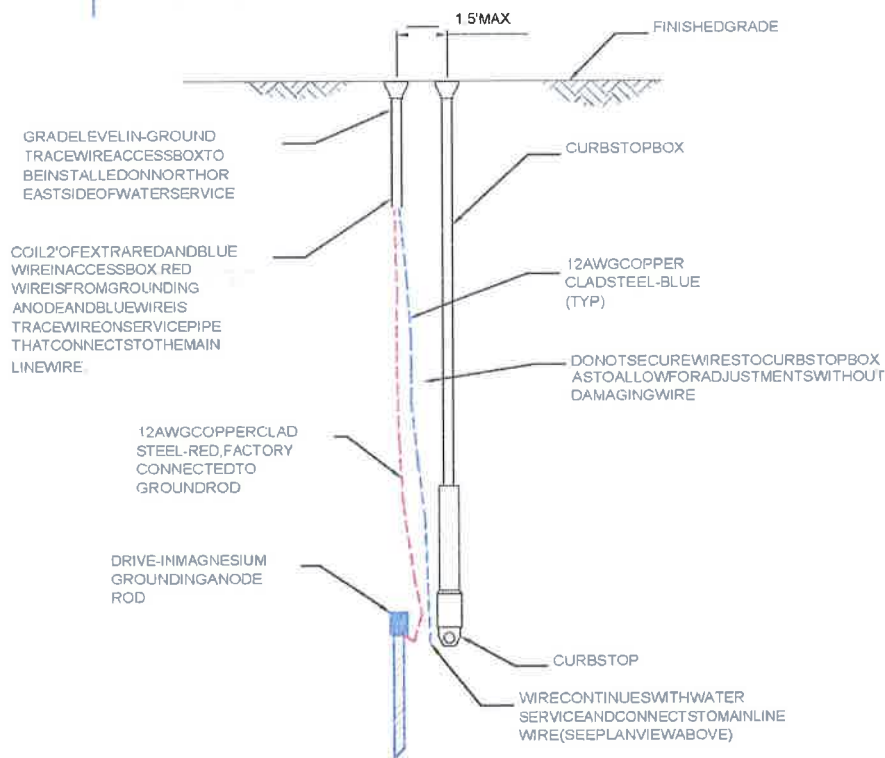
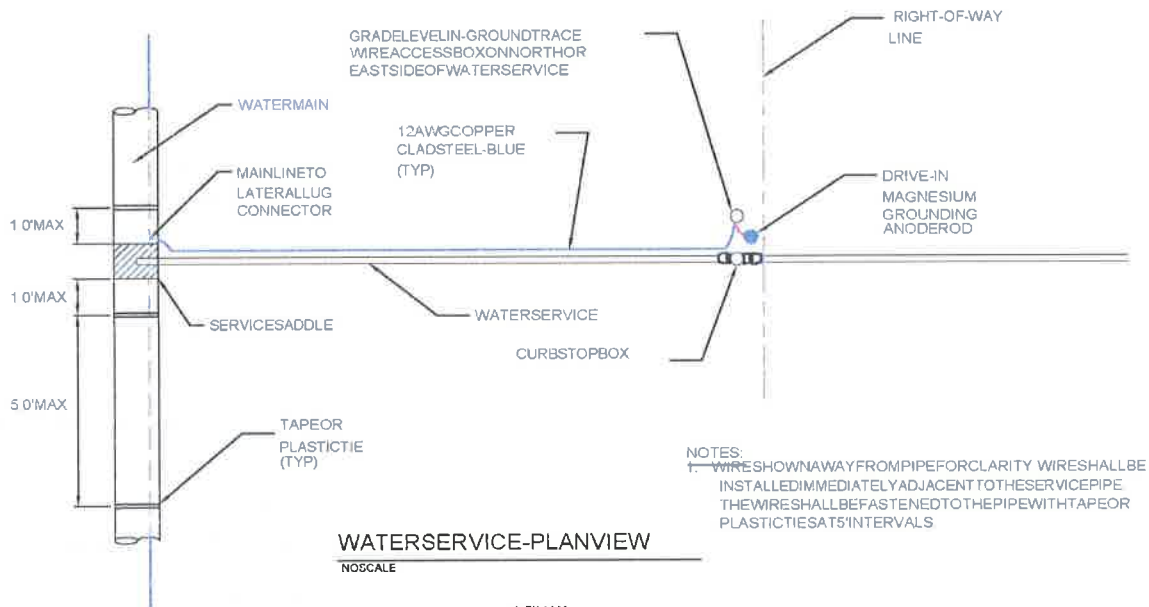
1. All new trace wire installations shall be located using typical low frequency (512Hz) line tracing equipment, witnessed by the contractor, engineer and facility owner as applicable, prior to acceptance of ownership.
2. This verification shall be performed upon completion of rough grading and again prior to final acceptance of the project.
3. Continuity testing in lieu of actual line tracing shall not be accepted.



NOTES:
 1. WIRES SHOWN AWAY FROM PIPE FOR CLARITY. WIRES SHALL BE INSTALLED ON THE BOTTOM SIDE OF THE PIPE BELOW THE SPRINGLINE. THE WIRES SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS.

TRACE WIRE PLAN (WATER)

NO SCALE





RESTORATION of ROADS, DRIVEWAYS, FENCES, LAWNS, and OTHER GRASSED AREAS

- 1) **GENERAL:** The work under this item of work shall consist of furnishing all necessary materials, labor, supervision, tools, equipment and incidentals for the restoration of roads, driveways, fences, lawns and other grassed areas so as to provide satisfactory repair to all damage caused by general construction work. It is the intent of these Specifications to restore all such features to the general conditions that existed prior to construction activity insofar as practical. It is not the intention of this Specification that trees, which must be cut and removed, be restored. The Contractor is expected to be familiar with the overall area and be satisfied as to the materials required and level of effort needed to accomplish such restoration in accordance with this Specification.
- 2) **APPLICABLE PUBLICATIONS:** The following publications form a part of this specification and where referred to by basic designation only, are applicable to the extent indicated. The latest editions of the publications referenced shall apply to the work:
 - a) AMERICAN ASSOCIATION of STATE HIGHWAY and TRANSPORTATION OFFICIALS (AASHTO):
 - i) T 99 The Moisture Density Relations of Soils Using a 5.5lb. (2.5 kg) Rammer and a 12-inch (305 mm) Drop
 - ii) T 167 Compressive Strength of Bituminous Mixture
 - iii) T 191 Density of Soil In-Place by the Sand-Cone Method
 - iv) T 230 Determining Degree of Pavement Compaction of Bituminous Aggregate Mixtures
 - b) AMERICAN SOCIETY for TESTING and MATERIALS (ASTM)
 - i) D 2922 Density of Soil and Soil Aggregate in Place by the Nuclear Method (shallow depths)
 - c) MISSISSIPPI DEPARTMENT of TRANSPORTATION (MDOT)
 - i) Standard Specifications for Road and Bridge Construction, 2004 Edition
 - ii) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)
- 3) **SUBMITTALS:** **Mix Designs:** Design mix will be provided by Contractor and approved by Engineer prior to production of asphalt.
- 4) **MATERIALS**
 - a) 4.1 **Subbase and Base Courses:** Subbase and base courses under paved areas shall be as specified in MSHD Specification, Section 300.
 - b) 4.2 **Prime Coat:** Prime coat shall consist of Grade MC-30 or Grade MS-70 in accordance with the applicable requirements of MDOT Specification Section 408.
 - c) **Bituminous Pavement:** Bituminous Pavement for roadway and parking areas, wearing and

binder courses shall consist of a mix in accordance with MDOT Specifications Section 403.

d) Materials shall conform to the following subsection of MDOT, Specifications Sections 702 and 703.

i) Bituminous Materials (AC-20) 702.01

ii) Aggregate

iii) BC-1 Binder Course

iv) SC-1 for Surface Course

v) Filler 703.14

vi) Topsoil: Topsoil shall be in accordance with Technical Specifications - SEEDING and SODDING.

vii) Seeding and Sodding: Seeding and sodding operations shall be in accordance with Technical Specifications - "SEEDING and SODDING."

5) CONSTRUCTION

a) Maintenance of Traffic

i) Prior to limiting or restricting traffic on any street or road, the Contractor shall obtain permission from the City of Hattiesburg. Through or local traffic shall at all times be accommodated by the use of temporary approaches, crossings or detours (if allowed by the City of Hattiesburg). Satisfactory (to the Property Owner) ingress and egress to any public or private property shall be properly maintained. Proper barricades, signs and detour signs shall be provided by the Contractor to adequately warn motorists of obstructions ahead. Lighted (flashing) barricades shall be used at night.

ii) Flagmen shall be provided to direct traffic around equipment and for one way movement of traffic around equipment and for one way movement of vehicles. The Contractor may have to stop construction and restore full traffic during certain rush hours.

iii) The Contractor shall at all times (unless otherwise permitted in writing by the City of Hattiesburg) maintain open one lane to traffic during construction operations and restore roadways to two-way traffic during non-construction hours.

b) Repair of Asphalt; Concrete Streets; Driveways; Parking Lots

i) Removal and Earthwork:

(1) The existing asphalt pavement shall be uniformly saw cut on straight lines and the material shall be removed. Other methods of cutting the existing asphalt surface which will result in a uniform straightedge similar to a sawed cut may be acceptable. Upon completion of the pipe laying, select backfill shall be placed in the excavation in maximum 8-inch lifts and compacted to at least 90% of maximum laboratory density to within one foot of the top subgrade and to 95% of maximum laboratory density in the upper one foot of the subgrade.

(2) Maximum density of typical select backfill material shall be determined in accordance

with AASHTO T 191 or ASTM D 2922. Portable mechanical tampers or vibratory compactors shall be used in the trenches. Rollers may be used at street level. Existing base and asphalt surfaces which become undermined during construction shall be removed until firm undisturbed subgrade is reached.

c) Asphaltic Base: Asphaltic base shall be constructed in accordance with MSHD Specification, Section 300.

- i) Prime Coat: Prime coat shall be applied to exposed existing base material prior to overlay with asphaltic base course in accordance with MSHD Specification, Section 408.
- ii) Tack Coat: Tack coat shall be applied to existing or new asphaltic wearing course and asphaltic base, or concrete which is to require asphalt wearing course.
- iii) Asphalt Wearing Course: Placement and compaction of the bituminous pavement shall be in accordance with MSHD Specification Section 403.03.
- iv) Utilities: All utility covers excavated during removal of streets, driveways, parking lots shall be restored to finished grade.

d) Driveways and Sidewalks:

- i) Driveways and sidewalks shall be repaired in similar manner to the original construction. Asphalt drives shall be saw cut where required and repaired in accordance with Paragraph 6(b) of this Specification. Concrete drives shall be saw cut or removed to the next joint. The minimum thickness for concrete driveway repair is 6 inches and for sidewalks is four (4) inches.
- ii) Concrete surfaces shall be properly tooled and receive a broom finish. Installation (if required) of new driveway drainage culvert shall be made only at the direction of the Engineer. The Contractor shall take all reasonable precautions to allow for reuse of existing drainage culverts.

e) Repair to Gravel Roads: Gravel roads shall be backfilled and compacted in accordance with Paragraph 6(b) of this Specification. The final surface shall consist of 12-inch in-place compacted clay gravel. Compaction shall be to 100% of maximum laboratory density in accordance with AASHTOT 99.

f) Repair to Lawns:

- i) General: The Contractor shall exercise extreme care to minimize damage to improved lawns. Trees and shrubs within the limits of work shall be removed only for essential construction requirements. Any shrubs, which are removed or damaged, shall be replaced by satisfactory (to the Property Owner) planting by the contractor. Any grass seed areas, roads, streets, driveways, culverts, fences, water lines, metal boxes or other items (excluding trees unavoidably cut) which are damaged by the Contractor, shall be satisfactorily restored by Contractor. Acceptance of improved lawn repairs shall be based on the firm establishment of live stand of grasses and live growth of any replanted and acceptable shrubs. The Contractor shall water and fertilize such areas until healthy growth of grass (and shrubs, if applicable) are attained
- ii) Grading: The surface areas shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse

effects to adjoining properties.

- iii) Topsoil: The Contractor shall strip topsoil and sod and stockpile for later use. Upon completion of trenching over the area. Additional topsoil shall be furnished if required (at no additional cost) to provide a uniform thickness of 3 inches. Lime at a rate of 1 - 1/2 tons per acre and fertilizer (13-13-13) at a rate of 800 pounds per acre shall be applied as needed to further establish grass growth.
 - iv) Grassing: Grass seed, sprigs, or sod similar to the existing lawn grasses shall be planted in accordance with the supplier's recommendations. Winter cover grasses such as rye grass shall be applied (in addition to planting the permanent grasses) if seeding, sprigging, or sodding is done at a time of year when the permanent grasses will not actively grow. The type(s) of permanent grasses shall be the same as the grass(es) in the damaged lawns. If the lawn repairs are accomplished between September 1 and March 1, the Contractor shall continue the restoration work during the next period of March 15 and April 5 and mow the grass and continue the restoration until satisfactory growth of the permanent grass (es) is obtained. Such additional restoration work shall include the 1 - 1/2 tons of lime per acre, application of 13-13-13 fertilizer at a rate of 800 pounds per acre and replanting and watering permanent grass as necessary to obtain satisfactory (to Engineer) growth. No time will be charged against the Contract Time for any such additional restoration work.
 - v) Sodding: Sodding shall be in accordance with Technical Specifications - SEEDING and SODDING.
- g) Erosion Control:
- i) During all phases of construction, the Contractor shall adequately protect all work from adverse erosion. Soil shall not be allowed to flow off the limits of work area. The Contractor shall employ the use of ditch checks, matting, temporary grass cover, blankets, or other measures to control erosion. The Contractor shall be responsible to correct damage caused by erosion.
 - ii) During the construction of this project, all work areas will be strictly monitored. All trench lines will be kept in excellent condition, all streets and drives will receive careful maintenance, keeping potholes and settled areas filled in. Dust control is essential and will also be strictly monitored.
- h) General Grassing of Unimproved Areas
- i) General: The Contractor shall seed and establish grass growth in all disturbed areas in unimproved areas (to include pastures and roadsides). Acceptance of the grass cover shall be based upon the firm establishment of a live stand of grass. The contractor shall water such grass if natural rainfall fails to adequately provide moisture. On slope and other areas subject to erosion, grassing shall be accomplished as soon as practical (within 48 hours unless weather is prohibiting) after finish grading operations.
 - ii) Grading: The surface area shall receive finish grading so the finish topsoil surface (after settlement) will meet the existing contour grade of the area prior to construction. The natural drainage during and after construction shall not be altered so as to cause adverse effects to adjoining properties.
 - iii) Topsoil: The Contractor shall remove existing topsoil and stockpile for later use. Upon completion of backfilling (to establish contours as before construction), the topsoil shall be uniformly spread back over the area. The Engineer may require additional topsoil be

SEEDING and SODDING

- 1) **DESCRIPTION:** This item consists of furnishing all labor, supervision, materials, tools, incidentals and equipment and performing all work for topsoiling, tilling, fertilizing, seeding, watering, and otherwise establishing, protecting and maintaining seeded and sodded areas as required by the Contract Drawings and these specifications, and including repair, refertilizing and reseeding as required until final inspection and acceptance of the project.
- 2) **SUBMITTALS:** Certificates for fertilizer, limestone, seed.
- 3) **MATERIALS**
 - a) **Topsoil:** Topsoil shall be the surface layer of soil that is stockpiled by the Contractor during stripping and/or excavation on the site. The topsoil shall be free of subsoil, clay, lumps, stones, brush or seed. Topsoil shall have a pH value of not less than 4.5 or more than 8.0.
 - b) **Lime:** Lime shall be ground limestone containing not less than 80% of total carbonates and shall be ground to such fineness that 80% will pass through a No. 10 mesh sieve and 40% will pass through a No. 40 mesh sieve.
 - c) **Fertilizer:** Fertilizer shall be water soluble commercial carriers of available plant food elements or combinations thereof, as stated herein and shall conform to the applicable state fertilizer laws. They shall be uniform in composition, dry, and free flowing materials in condition for application by suitable equipment. The fertilizer shall be delivered in standard bags or other convenient standard containers, each fully labeled with manufacturer's guaranteed analysis. Any fertilizer shall contain not less than the percentages by weight of the ingredients set out as follows: (1) Nitrogen, 13% (2) Phosphorous P O, 13%, (3) Potash K C, 13%. Invoices for fertilizer will show the kind and have analysis furnished.
 - d) **Seed:** Seeds with a minimum pure live seed content of 90% shall be used. They shall be of the best grade and of known vitality, purity, and germination and shall be delivered in containers bearing seed tags as required by law showing percentages of germination content and purity of seed as well as percentages of weed seed content.
 - i) All seeds shall be free of wild onion, Canadian thistle, Johnson grass, crab grass or other seeds of noxious weeds. All seeds shall be furnished in standard containers, or as acceptable to the Engineer. Seed which has become wet, moldy or otherwise damaged in transit or storage will not be acceptable.

Purity, Germination, and Planting Schedule			
Spring and Summer Seeding (March 1 to September 1)			
Name	Percent Purity	Percent Germination	Mix (dry wt. lbs.) per Acre
Hulled Bermuda	95	90	20
Pensacola Bahia	95	90	30
TOTAL			50
Fall and Winter Seeding (September 1 to March 1)			
Name	Percent Purity	Percent Germination	Mix (dry wt. lbs.) per Acre
Unhulled Bermuda	95	90	20
Pensacola Bahia	95	90	30

and maintenance operations.

- c) Grading: Previously established grades shall be maintained on the areas to be treated in a true and even condition; necessary repairs shall be made to previously graded areas by means of graders or other approved equipment.
- d) Tillage: After the areas required to be treated have been brought to the grades shown, the soil shall be tilled to a depth of at least 4 inches by plowing, disking, harrowing, or other acceptable operations until the condition of the soil is acceptable. The work shall be performed only during period when beneficial results are likely to be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. Undulations or irregularities in the surface shall be leveled before the next specified operation.

6) APPLICATION of FERTILIZER and LIMESTONE

- a) Preplanting fertilization of areas to be seeded: Fertilizer shall be distributed uniformly at a rate of 800 pounds per acre over areas to be seeded and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of fertilizer may be part of the operation specified in Section 5.4: TILLAGE of these specifications.
- b) Liming: Immediately following or simultaneously with incorporation of fertilizer, limestone shall be distributed uniformly at a rate of 4000 pounds per acre, and shall be mixed into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. Application of limestone along with fertilizer may be part of the operation specified in Section 5.4: TILLAGE of these specifications.
- c) Leveling: Surface irregularities resulting from tillage, fertilizing, liming, or other operations shall be leveled before seeding.
- d) Postplanting fertilization: From 40 to 60 days after seeding, ammonium nitrate or its nitrogen equivalent shall be applied uniformly at a rate of 225 pounds per acre over areas seeded. Fertilizer shall be applied when grass blades are dry to minimize burning. The planted area shall be watered to thoroughly moisten the upper 6 inches of the soil surface after the fertilizer is applied.

7) PLANTING SEED

- a) General: A satisfactory method of sowing shall be employed; using approved mechanical power-drawn drills or seeders, or other approved methods. When drills are used, markers or other means shall be provided to insure that the successive seeded strips will overlap or be separated by a space no greater than 6 inches. When delays in operations extend the work beyond the most favorable planting season for species designated or when conditions are such by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, work shall be halted as directed and resumed only when conditions are favorable or when approved alternate or corrective measure and procedures have been effected. If inspection during or after seeding operations indicates that strips wider than 6 inches have been left unplanted or other areas skipped, additional seed shall be sown.
- b) Broadcast Seeding: Seeding shall be broadcast either by hand or with acceptable seeding equipment, in combination with fertilizer, or with other acceptable sowing equipment. Seed shall be distributed uniformly over designated areas. Half of the seed shall be sown with sower moving at right angles to first sowing. Seed shall be covered to an average depth of 1/4 inches by brush harrow, spiketooth harrow, chain harrow, cultipacker, hand rake with wood tines, or other approved device. Seed shall not be broadcast during windy weather.

- c) **Drill Seeding:** Drill seeding shall be accomplished with approved equipment with drills set not more than 6 inches apart. Seed shall be sown uniformly over designated areas to average depth of 1/4 inch.
- d) **Sodding:** All solid sod shall be procured areas where the soil is fertile and contains a high percentage of loamy topsoil, and from areas that have been grazed or mowed sufficiently to form a dense turf.
- e) Mechanical devices, such as sod cutter, may be used for cutting the sod into strips or blocks. Care shall be exercised at all times to retain the native soil on the roots of the sod during the process of excavating, hauling and planting.
- f) The solid sod blocks shall be transplanted within 24 hours from the time of cutting, unless they are stacked at their destination in a manner satisfactory to the Engineer. All solid sod in stacks shall be kept moist and protected from exposure to the air and sun, and from freezing. In no event shall more than two (2) days elapse between the cutting and planting of the solid sod.
- g) Solid sod shall be planted during the period between March 1st and December 15th, unless written permission is given by the Engineer to extend the planting season. The solid sod shall be placed on the prepared surface with the edges in close contact. All cracks between blocks of solid sod shall be closed with small pieces of fresh sod and all cracks too small for sod shall be filled by a light dressing of topsoil. The entire sodded area shall then be compacted and watered to the satisfaction of the Engineer. Rollers, hand tamps or other approved equipment may be used for compacting.
- h) Surfaces of solid sodding which, in the opinion of the Engineer, may slide due to the height and slope of the surface or nature of the soil, shall, upon direction of the Engineer, be "pegged" with wooden pegs driven through the sod blocks into firm earth, sufficiently close to hold the sod in place.
- 8) **MAINTENANCE:** Seeded areas shall be maintained until all work or designated portions thereof have been completed and accepted. Tall grass and weeds that tend to impede the desired grass species shall be mowed, and any damage resulting from these operations shall be repaired at the Contractor's expense.
- 9) **ESTABLISHMENT of GROWTH**
 - a) **General:** The Contractor shall be responsible for proper care of seeded areas while grass is becoming established for three (3) months after completion of treatment on the entire project, unless desired cover is established in a shorter period of time and the Owner shortens responsibility period. The Contractor shall be responsible for providing a satisfactory stand of grass. A satisfactory stand of grass is determined as a cover of living grass in which gaps larger than 12 inches square do not occur as determined by an acceptance inspection made at the end of the maintenance period. Maintenance work shall be performed at the Contractor's expense.
 - b) **Mowing:** Seeded and sodded areas shall be mowed with acceptable mowing equipment to a height of about 4 inches when average height of grass becomes about 8 inches. When amount of cut grass is heavy, grass shall be removed to prevent destruction of underlying turf. If weeds or other undesirable vegetation threatens to impede the growth of planted species, such vegetation shall be mowed, or in case of excessive growth, shall be uprooted, raked and removed from area.
 - c) **Refertilizing:** The Contractor will determine areas needing refertilization at least 15 days before

FIRE HYDRANT

- 1) **GENERAL:** Fire hydrants shall comply in all respects with AWWA Standard C-502, latest revision. Fire hydrants shall be of the compression type, with the main valve opening against the pressure and closing with the pressure. The main valve opening shall be 5 1/4" in diameter. Fire Hydrant shall be of a dry barrel, dry top design. The nozzle section shall consist of two (2) hose nozzles and one (1) pumper nozzle or other as specified.
- 2) **RATING:** Fire hydrants shall be rated at 250 psi water working pressure, tested at 500 pounds hydrostatic for structural soundness in the following manner: 500 pound hydrostatic test supplied from the inlet side, first with the main valve closed for the testing of the valve seat: second, with the main valve open for testing of the drain valves and the hydrant barrel. Testing to be complete in accordance with AWWA C-502 and ULFM requirements.
- 3) **END CONFIGURATION:** Hydrants shall be connected to the main by a 6" fusion bonded, epoxy coated mechanical joint shoe. Mechanical joint shoes shall be fitted with strapping lugs.
- 4) **DESIGN**
 - a) The main valve seat of the hydrant shall be made of rubber and be supported by a one-piece bronze top plate / drain valve mechanism. Drain valves shall be faced with rubber. The bottom stem threads of the main valve rod shall be fitted with an epoxy coated, cast iron bottom plate, sealing lower rod threads from the water.
 - b) Changes in size or shape of the waterway (hydrant nozzles) shall be accomplished by means of easy curves. Exclusive of the main valve opening, the net area of the waterway of the barrel and the foot piece at the smallest part shall not be less than 120% of that of the net opening of the main valve.
 - c) Hose and pumper nozzles shall be threaded and screwed into the nozzle section and then mechanically locked to prevent turning.
 - d) Hose and pumper caps shall be chained to the hydrant
 - e) The hydrant shall be so designed that when it is in place, no excavation will be required to remove the main valve and movable parts of the drain valve. Further, the hydrant shall be of the type that can be extended without excavating.
 - f) Hydrants shall be so designed that, in the event of accident, or breaking of the hydrant above or near grade level; the main valve will remain closed.
 - g) The main valve rod shall be made in two parts and fitted with breakable coupling at the ground line flange.
 - h) The ground line connection between nozzle section and the barrel shall incorporate the use of a traffic flange. This connection shall be so designed that the nozzle section can be rotated in any increment of 360°. The ground line connection between the barrel and nozzle sections shall have a rubber o-ring gasket to provide a seal.
 - i) The operating threads of the hydrant shall be so designed as to avoid the working of any iron or steel parts against either iron or steel. The operating stem and operating nut threads shall be square or acme type.
 - j) The operating thread shall be lubricated at factory with food grade grease. Access shall be provided

to field lubricate the operating mechanism.

- k) The operating thread shall be sealed from water at all times when the valve is either in the opened or closed position. The operating rod shall be bronze sheathed where it passes through the double "O" ring seal in the bonnet.
- l) The bonnet shall be weather proof and utilize a weather shield integral with the external wrench operating nut.
- m) The operating nut shall be made of bronze with a self-lubricating design.
- n) Hydrants shall be of the dry barrel type and the hydrant shoe shall have two positive acting non-corrosive drain valves that shall drain the hydrant completely by opening when the main valve is closed, and close tightly in accordance with AWWA C-502 requirements when main valve is open.
- o) The main valve assembly shall be seated in the hydrant with a bronze-to-bronze interface to facilitate removal of the main valve, should maintenance be required. The nozzle section shall consist of two-2 1/2" hose nozzles to the specified thread designation (NST) and one pumper nozzle 4 1/2" in diameter to the specified thread designation (NST), or other combination of nozzle outlets, including independent hose gate valves, as shown on the plans.
- p) Two O-ring seals shall be utilized where the main hydrant rod passes through the 1 piece bonnet.
- q) Hydrant standpipe shall be ductile iron and single piece for all bury depths.
- r) All like parts of hydrants of the same size and model produced by the same manufacturer shall be interchangeable.
- s) Hydrant shall open by turning to the left. The direction of opening is to be permanently marked on the hydrant bonnet.
- t) Threads on hose and steamer nozzles shall be National Standard unless otherwise specified.
- u) Size and shape of operating nuts cap nuts shall conform to National Standard unless otherwise specified.
- v) Bury shall be a minimum of three (3) feet measuring depth from grade line to bottom of trench or connecting pipe.
- w) Auxiliary shut-off (isolation) gate valves, when required, shall be of the same manufacture as the hydrant.

5) **COATING**

- a) The inside of all hydrants shall be coated in accordance with AWWA standards except for bronze and threaded machined surfaces. Exterior on hydrant nozzle section shall be painted Fire Hydrant Red (or other as shown on the plans).
- b) Hydrant shoes shall have an interior and exterior thermosetting epoxy coating of 5 to 6 mils meeting AWWA C550.

- 6) **MARKINGS:** Hydrant shall be marked with the name of the manufacturer, size of valve opening, direction of opening and the year of manufacture all in accordance with the AWWA C-502.



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-693

File ID: 2017-693

Type: Regular Agenda Item

Status: Passed

Version: 3

Reference:

In Control: City Council

Requester: Lamar Rutland

File Created: 08/30/2017

Brief Title: Sewer XII Land Acquisitions for Site 4 and Site 5

Final Action: 09/05/2017

Minute Book Number: 2017-369/371

Title:

Approve waiver valuations and appraisal amounts and declare them as fair market value for property necessary for COMSWIP Sewer Project Phase XII Site 4 and Site 5, pursuant to MS Code 43-37-3 and other applicable statutes; Authorize fair market value offers for said parcels.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VI.-6

Sponsors:

Enactment Date:

Attachments: Site 4 - Madison Place Blvd 2, Site 4 - 211-A Pecan Grove Dr, Site 4 - 211-B Pecan Grove Dr, Site 4 - Madison Place Blvd, Site 5 - 71 J Ed Turner, Site 5 - 79 J Ed Turner, Site 5 - 85 J Ed Turner, Site 5 - 123 J Ed Turner, Site 5 - 131 J Ed Turner, Site 5 - J Ed Turner

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter: Sharon Waits

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
3	City Council - Amendments to the Agenda	09/05/2017					
2	City Council	09/05/2017	Approve				Pass

Action Text: A MOTION was made by Council Member George and seconded by Council Member Brown to Approve waiver valuations and appraisal amounts and declare them as fair market value for property necessary for COMSWIP Sewer Project Phase V Site 4 and Site 5, pursuant to MS Code 43-37-3 and other applicable statutes; Authorize fair market value offers for said parcels.

There being no discussion, the Motion received the affirmative vote of the Council as follows:

Yeas: 4 - George, Carroll, Dryden and Brown

Nays: 1 - Delgado

Yea:	4	Council Member George
		Council President Carroll
		Council Vice President Dryden
		Council Member Brown
Nay:	1	Council Member Delgado

Text of Legislative File 2017-693

Title

Approve waiver valuations and appraisal amounts and declare them as fair market value for property necessary for COMSWIP Sewer Project Phase XII Site 4 and Site 5, pursuant to MS Code 43-37-3 and other applicable statutes; Authorize fair market value offers for said parcels.

Summary

Sewer XII Land Acquisitions for Site 4 and Site 5

Budget Information

093695.7220.54

WAIVER VALUATION

Parcel No. 051G-01-292.000

Project No. Comswip Sewer Project Phase V

County: Lamar

Address: Madison Place Blvd.
Hattiesburg, MS 39402

Owner(s): Madison Place Homeowners Assoc.

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
051G-01-292.000	\$300.00	-0-	-0-	\$300.00

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 13, 2017

APR	-	AS PER RECORD
APS	-	AS PER SURVEY
BK	-	BOOK
PG	-	PAGE
NC	-	NO CORNER SET
SIP	-	SET 1/2" REBAR
SF	-	SQUARE FEET

SCALE: 1" = 50'

JUDGED TO BE A CLASS 'C' SURVEY
SURVEYED TO CLASS 'B'

BEARINGS ARE BASED ON THE RECORD
BEARING OF EAST PROPERTY LINE OF
THE ADJACENT PARCEL DESCRIBED IN
LAMAR COUNTY LAND RECORDS BK
20W, PG 382.

REFERENCE MATERIALS
LAMAR COUNTY TAX MAP

WESTOVER 4TH ADDITION SUBDIVISION PLAT
BK 1 PG 143 03-06-1972

WESTOVER WEST SUBDIVISION PLAT
BK 1 PG 149 07-25-1973

SUBSTITUTED TRUSTEE'S DEED
BK 20W PG 382 12-10-2009

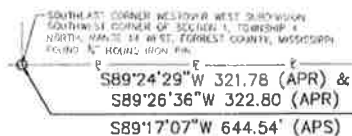
QUIT CLAIM DEEDS
BK 211 PG 89 08-24-2010
BK 211 PG 289 09-01-2010

WARRANTY DEED
BK 20G PG 509 11-06-2008

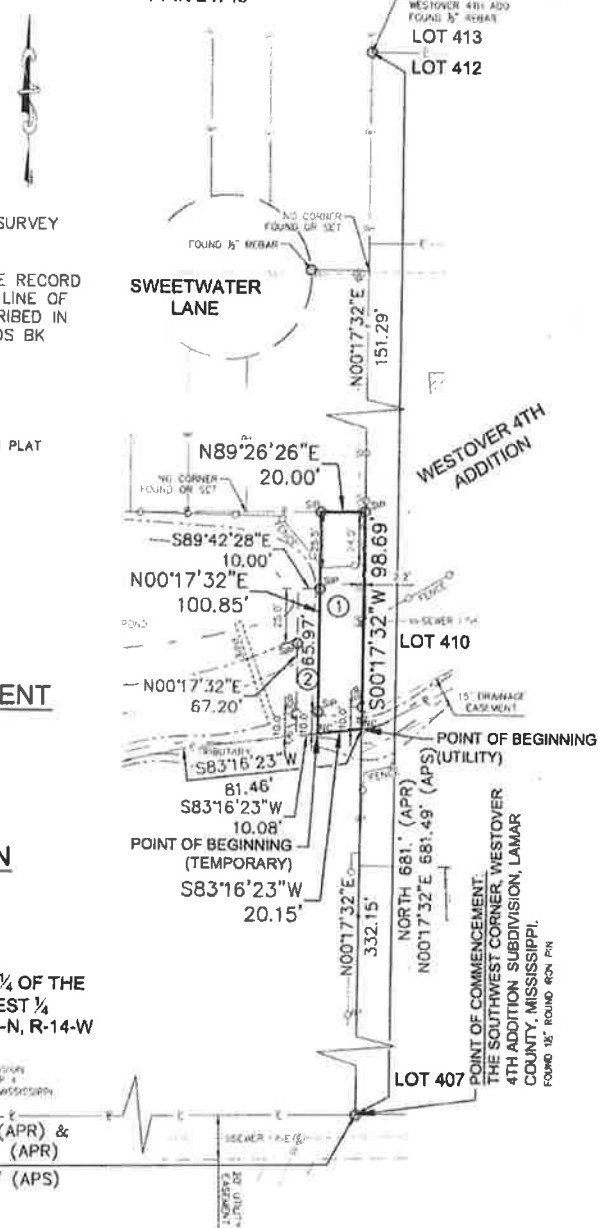
±0.05 ACRES
(±1,995 SF)

±0.02 ACRES
(±666 SF)

SOUTHWEST ¼ OF THE
SOUTHWEST ¼
SECTION 1, T-4-N, R-14-W



COUNTY TAX PARCEL No. 051G-01-292.000
PPIN 24746



¹PROCECTIS Harnettburg, City of 1275 S.W. Comprehensive Sewer Improvements Phase 5/1275S05/4/1 Files 12/15/00, 05/10/01/202000. Survey above, Plat 1, 1/22/2011 11:21:13 AM.

COUNTY TAX PARCEL No. 051G-01-292.000
PPIN 24746

State of Mississippi
County of Lamar

This is Certify that I have made a survey of the following described parcels.

Utility Easement

A 20.00 foot wide Utility Easement being described as being a part of the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 1, Township 4 North, Range 14 West, County of Lamar, State of Mississippi and being more particularly described as Commencing at a $\frac{1}{2}$ Inch Round Iron Pin representing the Southwest Corner of Westover Fourth Addition Subdivision as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, thence run N00°17'32"E along the West Line of said Subdivision of for 332.15 feet to a Point in a Tributary of Mixon's Creek and the Point of Beginning (Witness Corner: from said Point of Beginning continue N00°17'32"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar); thence run S83°16'23"W along said Tributary for 20.15 feet (Witness Corner: from said Point run N00°17'32"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar), thence run N00°17'32"E and parallel to said West Subdivision Line for 100.85 feet to a $\frac{1}{2}$ Inch Rebar, thence run N89°26'26"E for 20.00 feet to a $\frac{1}{2}$ Inch Rebar representing a Point on said West Subdivision Line, thence run S00°17'32"W along said West Subdivision Line for 98.69 feet to the Point of Beginning, comprising 0.05 Acres (1,995 Square Feet), more or less.

Temporary Construction Easement

A 10.00 foot wide Temporary Construction Easement being described as being a part of the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 1, Township 4 North, Range 14 West, County of Lamar, State of Mississippi and being more particularly described as Commencing at a $\frac{1}{2}$ Inch Round Iron Pin representing the Southwest Corner of Westover Fourth Addition Subdivision as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, thence run N00°17'32"E along the West Line of said Subdivision of for 332.15 feet to a Point in a Tributary of Mixon's Creek (Witness Corner: from said Point of Commencement run N00°17'32"E for 342.15 feet to a $\frac{1}{2}$ Inch Rebar), thence run S83°16'23"W along said Tributary for 20.15 feet to the Point of Beginning (Witness Corner: from said Point of Beginning run N00°17'32"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar); thence continue S83°16'23"W along said Tributary for 10.08 feet (Witness Corner: from said Point in Mixon's Creek Tributary run N00°17'32"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar), thence run N00°17'32"E and parallel to said West Subdivision Line for 67.20 feet (Witness Corner: from said Point in Mixon's Creek Tributary run N00°17'32"E for 42.20 feet to a $\frac{1}{2}$ Inch Rebar), thence run S89°42'28"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar, thence run S00°17'32"W and parallel to said West Subdivision Line for 65.97 feet to the Point of Beginning, comprising 0.02 Acres (666 Square Feet), more or less.



Nicholas M. Connolly, PE, PLS
Civil Engineer No. 12791
Land Surveyor No. 2973

Photograph Addendum

Owner	Madison Place Homeowners Assoc.				
Property Address	Madison Place Blvd.				
City	Hattiesburg	County	Lamar	State	MS Zip Code 39402
Client	City of Hattiesburg				



View of easement area



View of Madison Place Blvd

WAIVER VALUATION

Parcel No. 051G-01-354.000

Project No. Comswip Sewer Project Phase V

County: Lamar

Address: 211-A Pecan Grove Drive
Hattiesburg, MS 39402

Owner(s): Wendell Newsome

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
051G-01-354.000	\$610.00	-0-	-0-	\$610.00

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

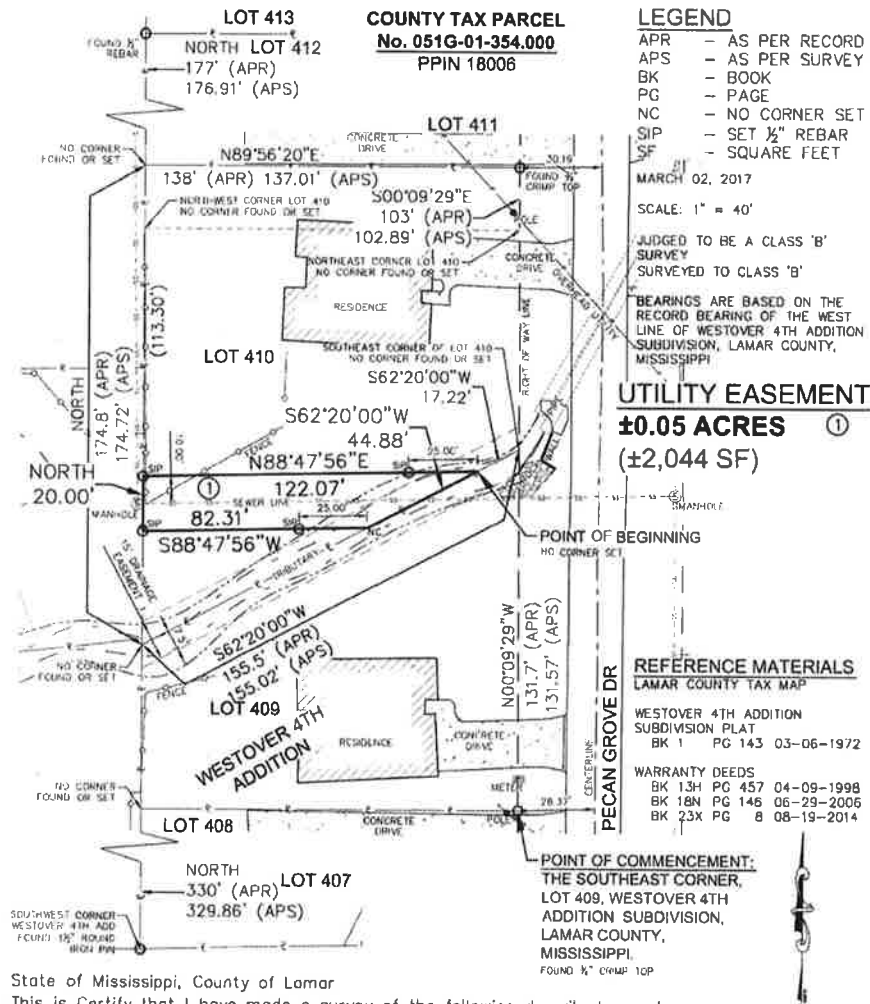
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 13, 2017

Plat Map



State of Mississippi, County of Lamar

This is Certify that I have made a survey of the following described parcel.

A 20.00 foot wide Utility Easement being described as being a part of Lot 410 of Westover Fourth Addition Subdivision, County of Lamar, State of Mississippi as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, and being more particularly described as Commencing at a 1/4 Inch Crimp Top Pin representing the Southeast Corner of Lot 409 of said Subdivision and a Point on the West Right of Way Line of Pecan Grove Drive, a paved public roadway, thence run N00°09'29"W along said West Right of Way Line for 131.57 feet to the Southeast Corner of said Lot 410 and a Point in a Tributary of Nixon's Creek, thence run S62°20'00"W along the South Line of said Lot 410 for 17.22 feet to the Point of Beginning (Witness Corner: from the Point of Beginning, run S88°47'56"W for 25.00 feet to a 1/2 Inch Rebar); thence continue S62°20'00"W along said South Lot Line for 44.88 feet (Witness Corner: from said Point, run S88°47'56"W for 25.00 feet to a 1/2 Inch Rebar), thence run S88°47'56"W for 82.31 feet to a 1/2 Inch Rebar representing a Point on the West Line of said Lot 410, thence run North along said West Lot Line for 20.00 feet to a 1/2 Inch Rebar, thence run N88°47'56"E for 122.07 feet to the Point of Beginning, comprising 0.05 Acres (2,044 Square Feet), more or less.

sdw
Engineering Progress

No. Survey Act 11411 (Miss. Code Ann. § 11-1-1) (2004) (2007) (2010) (2013) (2016) (2019) (2022) (2025) (2028) (2031) (2034) (2037) (2040) (2043) (2046) (2049) (2052) (2055) (2058) (2061) (2064) (2067) (2070) (2073) (2076) (2079) (2082) (2085) (2088) (2091) (2094) (2097) (2100) (2103) (2106) (2109) (2112) (2115) (2118) (2121) (2124) (2127) (2130) (2133) (2136) (2139) (2142) (2145) (2148) (2151) (2154) (2157) (2160) (2163) (2166) (2169) (2172) (2175) (2178) (2181) (2184) (2187) (2190) (2193) (2196) (2199) (2202) (2205) (2208) (2211) (2214) (2217) (2220) (2223) (2226) (2229) (2232) (2235) (2238) (2241) (2244) (2247) (2250) (2253) (2256) (2259) (2262) (2265) (2268) (2271) (2274) (2277) (2280) (2283) (2286) (2289) (2292) (2295) (2298) (2301) (2304) (2307) (2310) (2313) (2316) (2319) (2322) (2325) (2328) (2331) (2334) (2337) (2340) (2343) (2346) (2349) (2352) (2355) (2358) (2361) (2364) (2367) (2370) (2373) (2376) (2379) (2382) (2385) (2388) (2391) (2394) (2397) (2400) (2403) (2406) (2409) (2412) (2415) (2418) (2421) 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Photograph Addendum

Owner	Wendell Newsome				
Property Address	211A Pecan Grove Dr				
City	Hattiesburg	County		State	MS Zip Code 39402
Client	City of Hattiesburg				



View of easement area



View of Pecan Grove Drive

WAIVER VALUATION

Parcel No. 051G-01-355.000

Project No. Comswip Sewer Project Phase V

County: Lamar

Address: 211-B Pecan Grove Drive
Hattiesburg, MS 39402

Owner(s): Scott Martin

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
051G-01-355.000	\$210.00	-0-	-0-	\$210.00

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 13, 2017

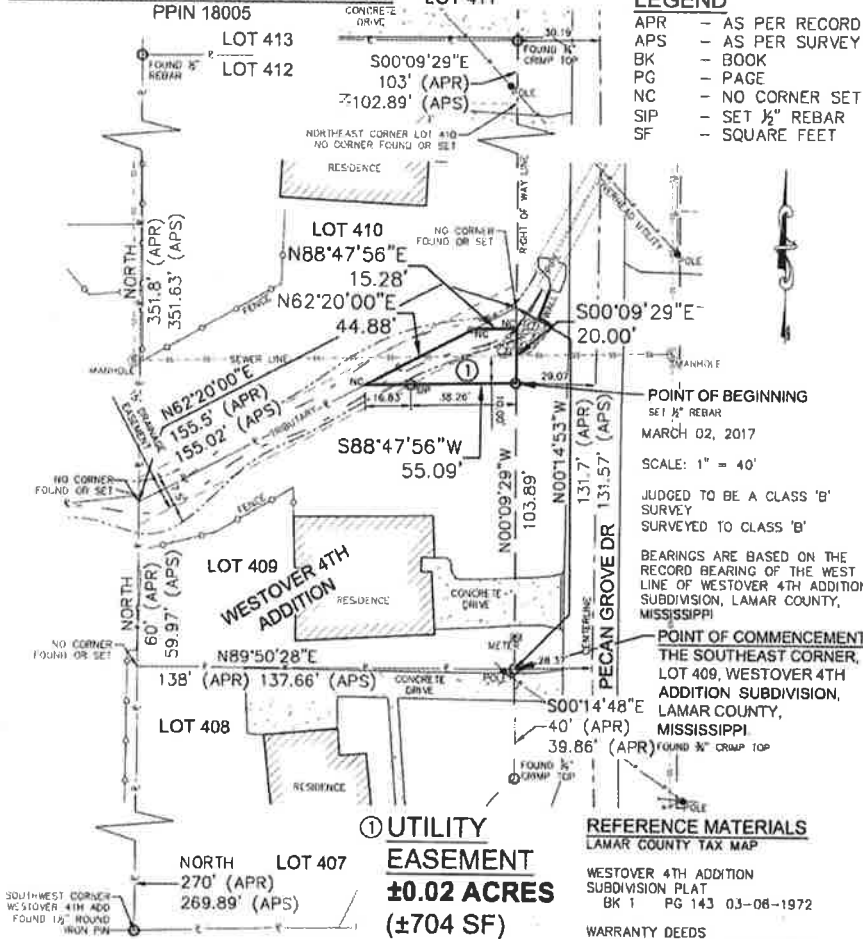
Plat Map

COUNTY TAX PARCEL No. 051G-01-355.000

LOT 411

LEGEND

APR - AS PER RECORD
APS - AS PER SURVEY
BK - BOOK
PG - PAGE
NC - NO CORNER SET
SIP - SET 1/2" REBAR
SF - SQUARE FEET



State of Mississippi, County of Lamar

This is Certify that I have made a survey of the following described parcel.

A 20.00 foot wide Utility Easement being described as being a part of Lot 409 of Westover Fourth Addition Subdivision, County of Lamar, State of Mississippi as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, and being more particularly described as Commencing at a 1/4 Inch Crimp Top Pin representing the Southeast Corner of said Lot 409 and a Point on the West Right of Way Line of Pecan Grove Drive, a paved public roadway, thence run N00°09'29"W along said West Right of Way Line for 103.89 feet to a 1/2 Inch Rebar representing the Point of Beginning; thence run S88°47'56"W for 55.09 feet to a Point on the North Line of said Lot 409 and a Point in a Tributary of Mison's Creek (Witness Corner: from the Point of Beginning, run S88°47'56"W for 38.56 feet to a 1/2 Inch Rebar), thence run N62°20'00"E along said North Lot Line for 44.88 feet, thence run N88°47'56"E for 15.28 feet to a Point on said West Right of Way Line and a Point in said Tributary, thence run S00°09'29"E along said West Right of Way Line for 20.00 feet to the Point of Beginning, comprising 0.02 Acres (704 Square Feet), more or less.

sdw
Engineering Progress
300 Second Ave. (P.O. Box 100) Jackson, MS 39201-0100
PROJECT: Hattisburg, City of (1273-500) - Comprehensive Sewer Improvements - Phase V (1273505 CAD File) 1273505_01160131000_Survey.dwg, Plat, 3/2/2017 10:12:29 AM

3/2/2017
NICHOLAS M. CONNOLLY, PE, PLS
Civil Engineer No. 12791
Land Surveyor No. 2973

Photograph Addendum

Owner	Scott Martin				
Property Address	211B Pecan Grove Dr				
City	Hattiesburg	County		State MS	Zip Code 39402
Client	City of Hattiesburg				



View of easement area



View of Pecan Grove Drive

WAIVER VALUATION

Parcel No. 051G-01-292.001

Project No. Comswip Sewer Project Phase V

County: Lamar

Address: Madison Place Blvd
Hattiesburg, MS 39402

Owner(s): Fordham-Thompson Developemnt, LLC

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: *"...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."*

Federal regulation at 49 CFR 24.102 provides: *"...(2) An appraisal is not required if...(ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data...(A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."*

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: *"...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule..."*. Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
051G-01-292.001	\$950.00	-0-	-0-	\$950.00

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 13, 2017

Plat Map - Page 1

COUNTY TAX PARCEL No. 051G-01-292.001

PPIN 31879

51G-01-292.001

LOT 413

LOT 412

NORTHWEST CORNER LOT 412
WESTOVER 4TH ADD
FOUNDED BY REBAR

N83°16'23"E
81.46'

N83°16'23"E
10.08'

N83°16'23"E
20.15'

LOT 409

WESTOVER 4TH ADDITION

LOT 408

CONCRETE DRIVE

LOT 407

POINT OF BEGINNING (UTILITY)
THE SOUTHWEST CORNER, WESTOVER 4TH ADDITION
SUBDIVISION, LAMAR COUNTY, MISSISSIPPI.
52003 JCT. ROAD, LAMAR, MISS.

POINT OF BEGINNING (TEMPORARY)
SET BY REBAR

S89°17'07"W
20.00'

S89°17'07"W
10.00'

N00°17'32"E 328.98'

N00°17'32"E 330.04'

N00°17'32"E 681.8' (APR)

N00°17'32"E 681.49' (APS)

S00°17'32"W 332.15'

UTILITY EASEMENT
±0.15 ACRES
(±6,622 SF)

**TEMPORARY
CONSTRUCTION
EASEMENT
±0.08 ACRES
(±3,295 SF)**

SOUTHWEST ¼ OF THE
SOUTHWEST ¼
SECTION 1, T-4-N, R-14-W

SOUTHEAST CORNER WEST-TOEIN WEST SHADOWN
SOUTHWEST CORNER OF TOWNSHIP 4 NORTH &
RANGE 14 WEST, FOREST COUNTY, MICHIGAN
ROUND ROCK PIN

S89°24'29"W 321.78 (APR)
S89°26'36"W 322.80 (APR)
S89°17'07"W 644.54' (APS)

State of Mississippi, County of Lamar

This is Certify that I have made a survey of the following described parcels.

A 20.00 foot wide Utility Easement being described as being a part of the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 1, Township 4 North, Range 14 West, County of Lamar, State of Mississippi and being more particularly described as Beginning at a 1 $\frac{1}{2}$ Inch Round Iron Pin representing the Southwest Corner of Westover Fourth Addition Subdivision as per Map or Plot thereof on file in the Office of the Chancery Clerk of said Lamar County, thence run S89°17'07"W along the South Line of said Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ for 20.00 feet to a $\frac{1}{2}$ Inch Rebar, thence run N00°17'32"E and parallel to the West Line of said Westover Fourth Addition Subdivision for 330.04 feet to a Point in a Tributary of Mixon's Creek (Witness Corner: from said $\frac{1}{2}$ Inch Rebar run N00°17'32"E for 320.04 feet to a $\frac{1}{2}$ Inch Rebar), thence run N83°16'23"E along said Tributary for 20.15 feet to a Point on said West Line (Witness Corner: from said Point of Beginning run N00°17'32"E for 317.15 feet to a $\frac{1}{2}$ Inch Rebar), thence run S00°17'32"W along said West Subdivision Line for 332.15 feet to the Point of Beginning, comprising 0.15 Acres (6,622 Square Feet), more or less.

Continued on Sheet 2 of 2

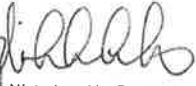
1: PROJECTS: Hamburg, City of 1271 WGS • Community & Soc

Sheet 1 of 2

COUNTY TAX PARCEL No. 051G-01-292.001
PPIN 31879

Temporary Construction Easement

A 10.00 foot wide Temporary Construction Easement being described as: being a part of the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 1, Township 4 North, Range 14 West, County of Lamar, State of Mississippi and being more particularly described as Commencing at a 1 $\frac{1}{2}$ Inch Round Iron Pin representing the Southwest Corner of Westover Fourth Addition Subdivision as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, thence run S89°17'07"W along the South Line of said Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ for 20.00 feet to a $\frac{1}{2}$ Inch Rebar representing the Point of Beginning; thence continue S89°17'07"W along said South Line for 10.00 feet to a $\frac{1}{2}$ Inch Rebar, thence run N00°17'32"E and parallel to the West Subdivision Line of said Westover Fourth Addition Subdivision for 328.96 feet to a Point in a Tributary of Mixon's Creek (Witness Corner: from said Point in Mixon's Creek Tributary run S00°17'32"W for 10.00 feet to a $\frac{1}{2}$ Inch Rebar), thence run N83°16'23"E along said Tributary for 10.08 feet (Witness Corner: from said Point of Beginning run N00°17'32"E for 320.04 feet to a $\frac{1}{2}$ Inch Rebar), thence run S00°17'32"W and parallel to said West Subdivision Line for 330.04 feet to the Point of Beginning, comprising 0.08 Acres (3,295 Square Feet), more or less.

 
Nicholas M. Connolly, PE, PLS
Civil Engineer No. 12791
Land Surveyor No. 2973

sdw
Engineering Progress

3D1 Survey Rev: 1/1/2013; MS 29625-1 (S); 05/10/14; 05/11/15; 05/12/16; 05/13/17; 05/14/18; 05/15/19; 05/16/20; 05/17/21; 05/18/22; 05/19/23; 05/20/24; 05/21/25; 05/22/26; 05/23/27; 05/24/28; 05/25/29; 05/26/30; 05/27/31; 05/28/32; 05/29/33; 05/30/34; 05/31/35; 06/01/36; 06/02/37; 06/03/38; 06/04/39; 06/05/40; 06/06/41; 06/07/42; 06/08/43; 06/09/44; 06/10/45; 06/11/46; 06/12/47; 06/13/48; 06/14/49; 06/15/50; 06/16/51; 06/17/52; 06/18/53; 06/19/54; 06/20/55; 06/21/56; 06/22/57; 06/23/58; 06/24/59; 06/25/60; 06/26/61; 06/27/62; 06/28/63; 06/29/64; 06/30/65; 06/31/66; 07/01/67; 07/02/68; 07/03/69; 07/04/70; 07/05/71; 07/06/72; 07/07/73; 07/08/74; 07/09/75; 07/10/76; 07/11/77; 07/12/78; 07/13/79; 07/14/80; 07/15/81; 07/16/82; 07/17/83; 07/18/84; 07/19/85; 07/20/86; 07/21/87; 07/22/88; 07/23/89; 07/24/90; 07/25/91; 07/26/92; 07/27/93; 07/28/94; 07/29/95; 07/30/96; 07/31/97; 08/01/98; 08/02/99; 08/03/00; 08/04/01; 08/05/02; 08/06/03; 08/07/04; 08/08/05; 08/09/06; 08/10/07; 08/11/08; 08/12/09; 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Photograph Addendum

Owner	Fordham-Thompson Development, LLC				
Property Address	Madison Place Blvd				
City	Hattiesburg	County		State MS	Zip Code 39402
Client	City of Hattiesburg				



View of easement area



View of Madison Place Blvd

WAIVER VALUATION

Parcel No. 052A-03-004-045

Project No. Comswip Sewer Project Phase V

County Lamar

Address: 71 J Ed Turner Rd, Hattiesburg, MS

Owner(s): Eric N. Weill

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-045	\$1,800	-0-	-0-	\$1,800

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

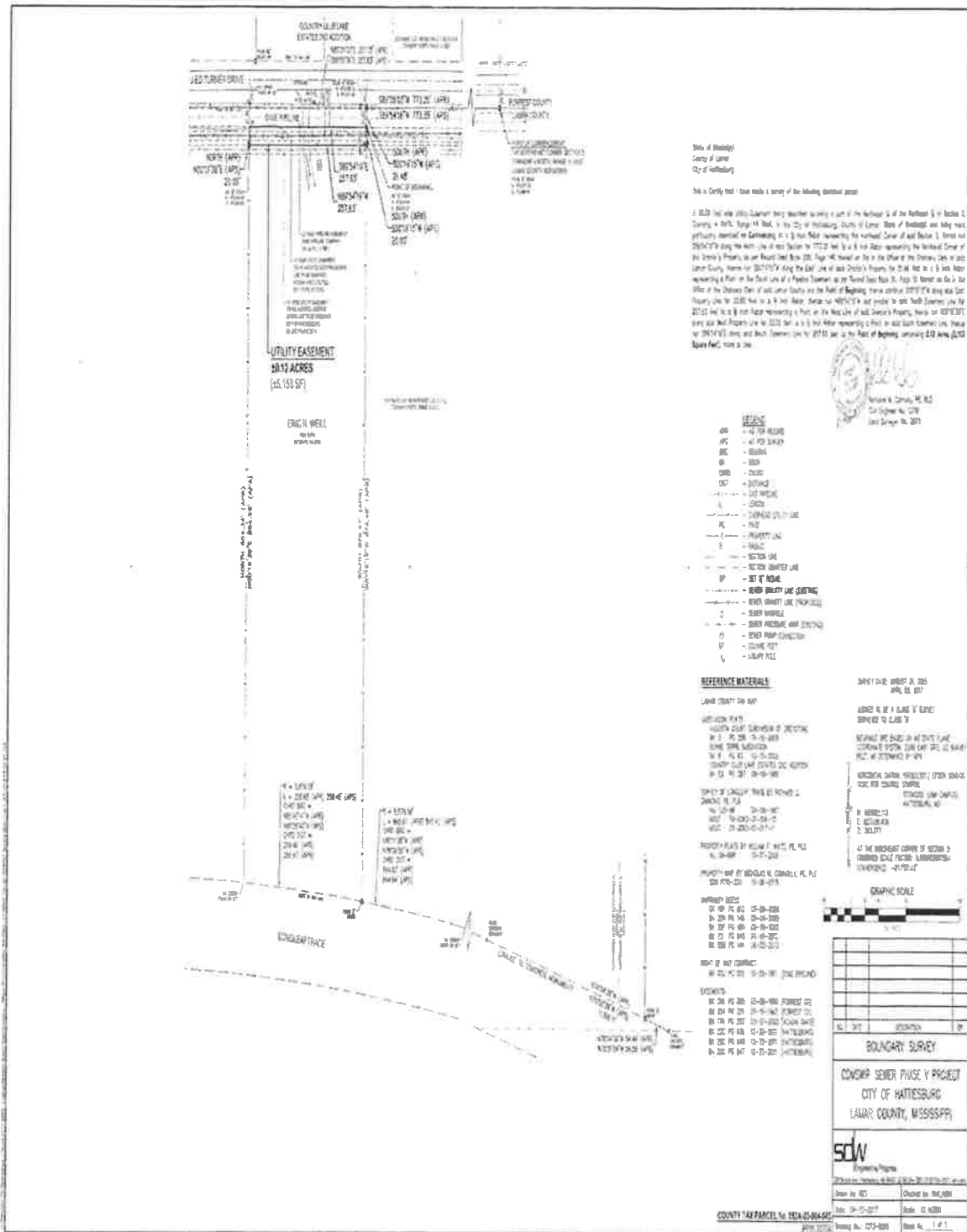
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

Plat Map



Photograph Addendum

Owner	Eric N. Weill						
Property Address	71 J Ed Turner Rd						
City	Hattiesburg	County	Lamar	State	MS	Zip Code	39402
Client	City of Hattiesburg						



Easement Area



Easement Area



J Ed Turner Drive

WAIVER VALUATION

Parcel No. 052A-03-004-049

Project No. Comswip Sewer Project Phase V

County Lamar

Address: 79 J Ed Turner Rd, Hattiesburg, MS

Owner(s): Regina Lee

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

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Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-045	\$1,800	-0-	-0-	\$1,800

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

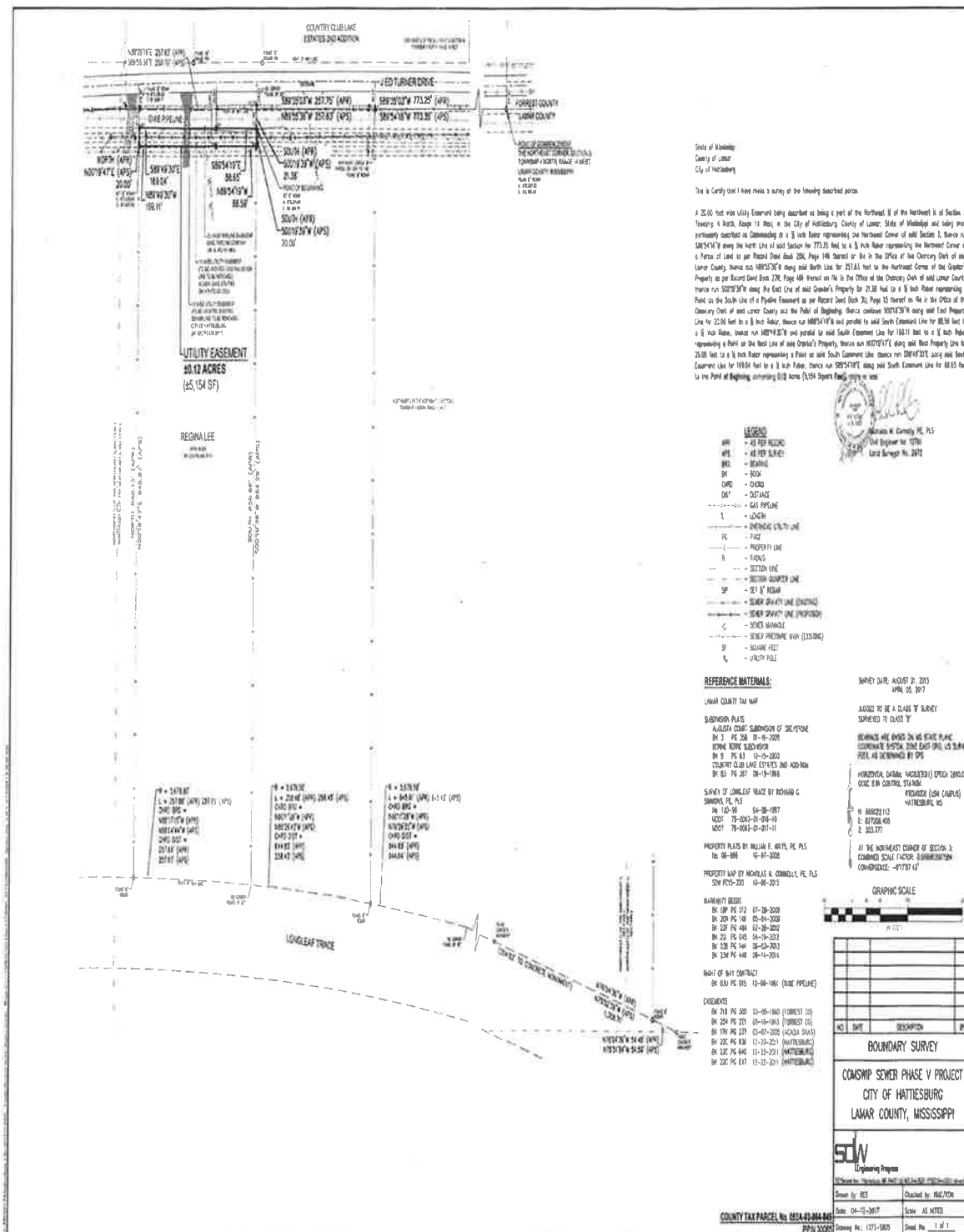
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

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Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

Plat Map



Photograph Addendum

Owner	Regina Lee					
Property Address	79 J Ed Turner Rd					
City	Hattiesburg	County	Lamar	State	MS	Zip Code 39402
Client	City of Hattiesburg					



Easement Area



Easement Area



J Ed Turner Drive

WAIVER VALUATION

Parcel No. 052A-03-004-047

Project No. Comswip Sewer Project Phase V

County Lamar

Address: 85 J Ed Turner Rd, Hattiesburg, MS

Owner(s): Wesley Hester

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

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Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-047	\$600	-0-	-0-	\$600

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

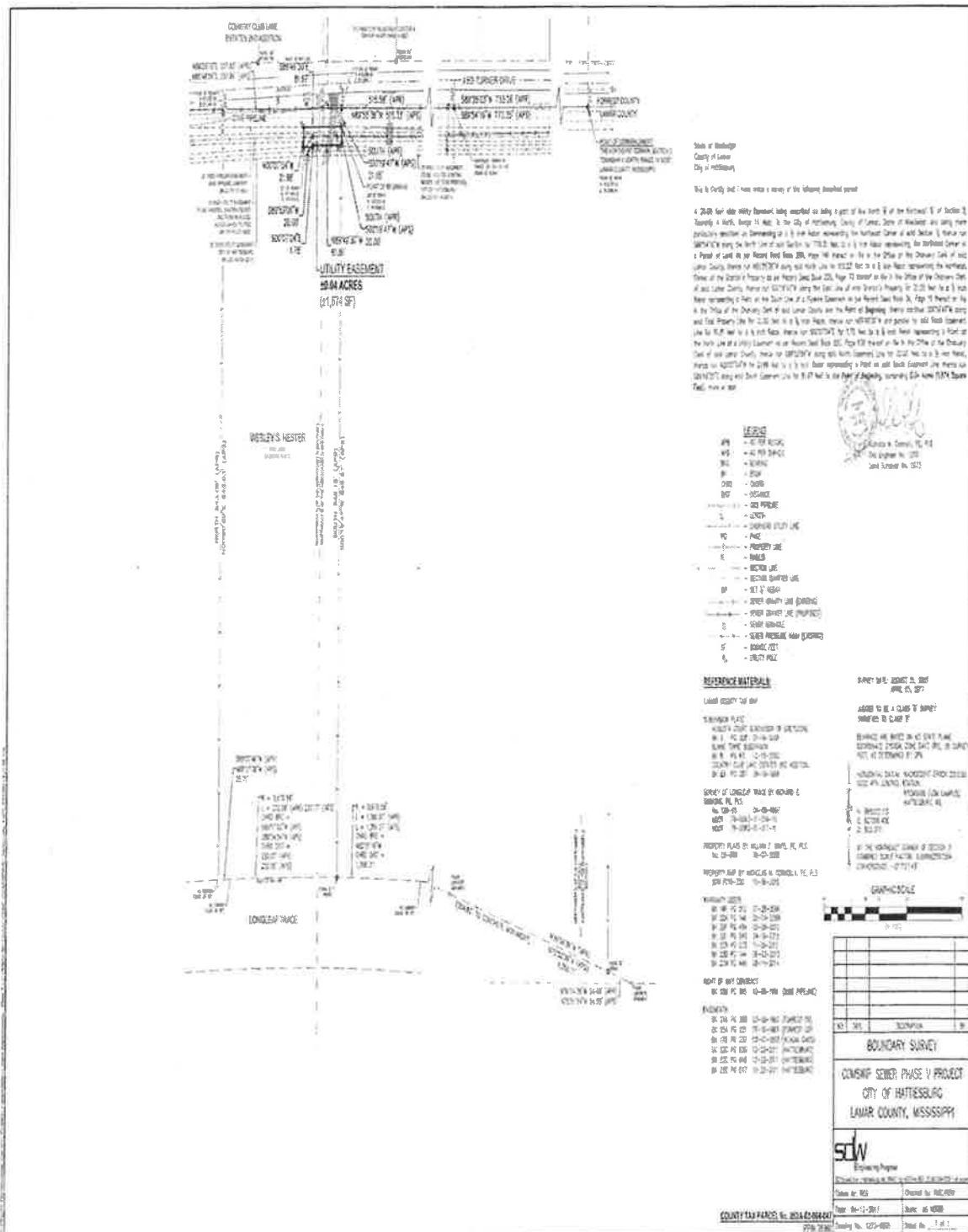
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

Plat Map



Photograph Addendum

Owner	Wesley Hester					
Property Address	85 J Ed Turner Rd					
City	Hattiesburg	County	Lamar	State	MS	Zip Code 39402
Client	City of Hattiesburg					



Easement Area



Easement Area



J Ed Turner Drive

WAIVER VALUATION

Parcel No. 052A-03-004-048

Project No. Comswip Sewer Project Phase V

County Lamar

Address: 123 J Ed Turner Rd, Hattiesburg, MS

Owner(s): John & Krista Eye

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

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Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-048	\$300	-0-	-0-	\$300

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

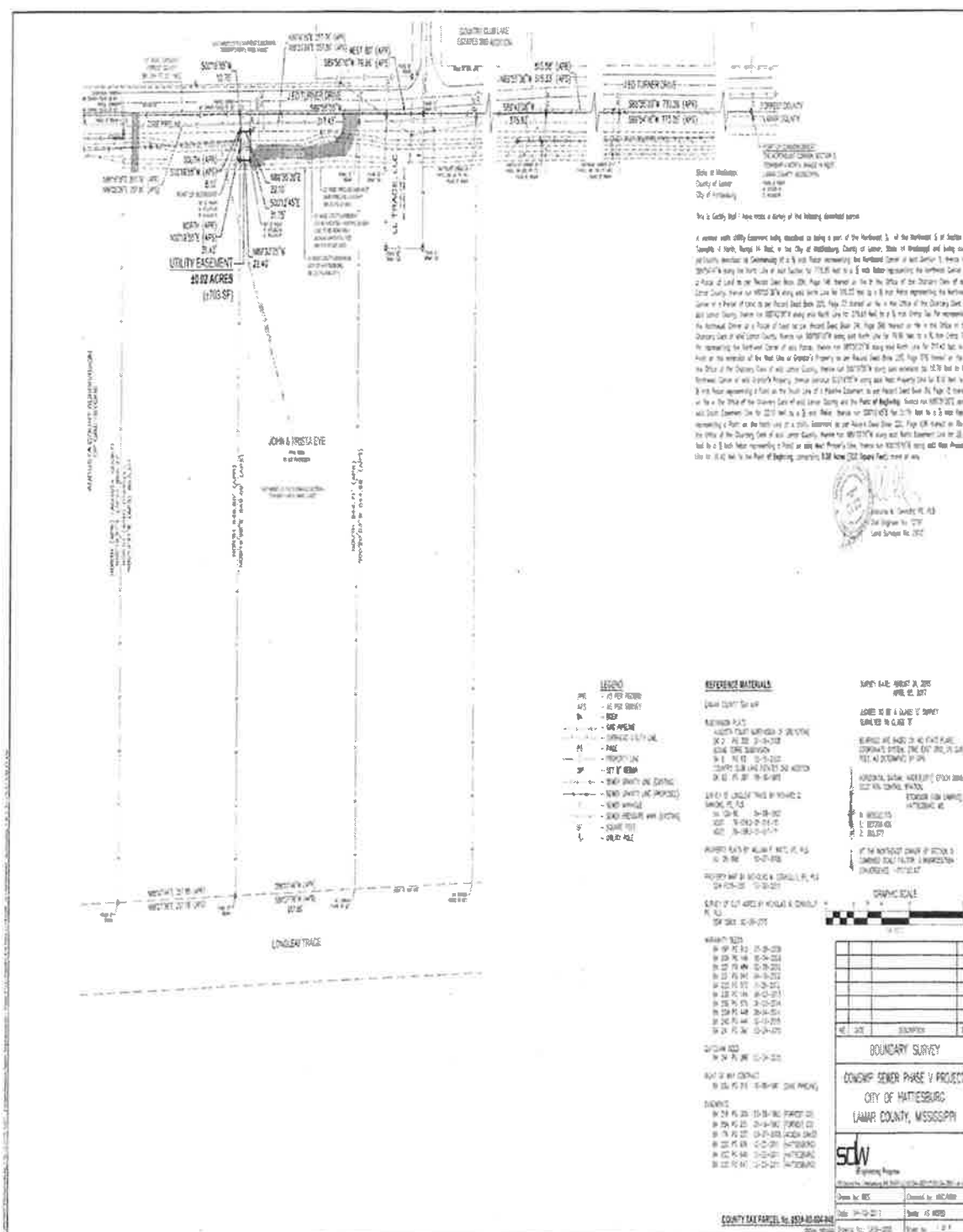
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

Plat Map



Photograph Addendum

Owner	John & Krista Eye					
Property Address	123 J Ed Turner Rd					
City	Hattiesburg	County	Lamar	State	MS	Zip Code 39402
Client	City of Hattiesburg					



Easement Area



Easement Area



J Ed Turner Drive

APPRAISAL OF PROPERTY AT

131 J ED TURNER DRIVE

HATTIESBURG, MS

LIGHTSEY & ASSOCIATES

P.O. Box 15489
Hattiesburg, MS 39404
(601) 584-6260

June 8, 2017

Mr. Lamar Rutland
City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403

RE: Appraisal of property at 131 J Ed Turner Drive,
Hattiesburg, MS

Dear Mr. Rutland:

In accordance with the your request, I have made an inspection and investigation of the property located 131 J Ed Turner Drive, Hattiesburg, Mississippi, for the purpose of forming an opinion of the Market Value, in fee simple, as of June 7, 2017, the effective date of the appraisal being the date the subject property was last inspected. The value opinion is both before and after the taking of a sewer easement by the City of Hattiesburg and noting damages to the remainder, if any. In the case of the subject property, this easement will consist of 0.17 acre or 7,601 square feet.

Market Value is defined as the most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the property will sell in an open and competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self interest, and assuming that neither is under undue duress.

NEIGHBORHOOD DESCRIPTION

The subject property is on J Ed Turner Drive, inside the city limits of Hattiesburg in what is known as the Country Club area, west of Highway 49 and north of West 4th Street. The general area contains a wide age range of properties that are mainly residential in nature, being mainly single-unit dwellings. The subject area has been annexed into the City of Hattiesburg in the past several years. There are several newer dwellings located along J Ed Turner Drive. The subject is in relative close proximity to the public schools, shopping and employment centers, and medical facilities. Homes in proximate market segment range in price from approximately \$100,000 to above \$1,000,000. This has been a stable residential area for a number of years and this trend appears likely to continue in the foreseeable future.

SITE DESCRIPTION

The subject site is located on the southerly side of J Ed Turner Drive, just south of the Hattiesburg Country Club. It has a frontage of approximately 257.77 feet on J Ed Turner Drive and extends to a depth of approximately 850 feet to the Longleaf Trace, which borders the site on its southerly side. The site is generally rectangular in shape and contains approximately 5 acres. The majority of the site appears to be at or above street grade. The property does not appear to lie in a designated flood area. All public utilities are connected or available to the site. A survey is included in the addenda of this report in order to assist the reader in visualizing the property. There were no adverse soil or subsoil conditions observed; however, no soil tests have been made as a part of this report. The property is zoned R-1A, Single Family Residential, by the zoning authorities of the City of Hattiesburg. The City of Hattiesburg intends to take a sewer easement of 0.17 acre, or 7,601 square feet along the subject road frontage. After the taking of this easement, access and utility will remain essentially the same, thus, in the appraiser's opinion, there will be no damages to the remainder property.

IMPROVEMENTS DESCRIPTION

There is a large, high quality dwelling that has recently been constructed on the subject site. This dwelling is well removed from the acquisition area and will suffer no damages from the taking. Thus, it is given no consideration in this appraisal.

PROPERTY HISTORY

According to tax assessor's records and MLS # 93408 (Coldwell Banker) the subject site was purchased by the present owner on 02/12/2015. The reported price was \$74,000. The subject property is not known to be listed for sale nor under contract. Research of the market indicates that marketing/exposure time in the area is typically 120-180 days.

TAXES

The total taxes for the subject property for 2016 are \$22.97. The total true value (tax value) of the property is \$900.00 with an assessed value of \$135.00. According to the Lamar County Tax Assessor, all taxes due on the property have been paid in full. These taxes are for land only. The tax assessor has yet to add the dwelling to the tax rolls.

HIGHEST AND BEST USE

In order to estimate the Highest and Best Use of the subject, the surrounding property uses as well as the four tests of Highest and Best Use were considered. These are 1)physically possible, 2)legally permissible, 3)financially feasible, and 4)maximally productive. After considering these factors, the Highest and Best Use of the property, as vacant, is estimated to be for a single-unit residential house site. The Highest and Best Use of the property as presently improved is estimated to be for use as a single-unit dwelling.

INTENDED USE AND SCOPE OF THE APPRAISAL

This appraisal is intended to assist the client, Mr. Lamar Rutland of the City of Hattiesburg, in forming an opinion of value of the subject property, both before and after the taking of an easement for a sewer project. In preparing this appraisal, the appraiser inspected the subject site; gathered information on comparable lot sales and listings, confirmed and analyzed the data and applied the Sales Comparison Approach to value. As only the subject land is being considered in this appraisal, this was the only approach deemed applicable to the subject's valuation.

APPRAISAL PROCESS

In good appraisal practice, three approaches to value are normally used to arrive at a value conclusion for a given property. These approaches are the Sales Comparison Approach, the Cost Approach, and the Income Approach. The Sales Comparison Approach is based on deriving a value indication by comparing properties that have been sold recently to the subject property and adjusting the sales price of the comparables for any basic differences. The Income Approach considers the present value of the future benefits of income and ownership. To estimate the income potential of the subject, comparable rents are obtained and reconciled to the subject, then a deduction is made for anticipated expenses. The resulting net income is then capitalized into value using a rate supported by market data. The Cost Approach provides a value indicator based on the cost to reproduce the improvements less any observed depreciation. The value estimate of the land developed through the Sales Comparison Approach is then added to the depreciated value estimate of the Improvements. As noted above, the appraiser has utilized the Sales Comparison Approach as the subject land is all that is under consideration in this appraisal.

LOT SALES

The following vacant lot sales were utilized to arrive at an opinion of value for the subject property.

LOT SALE NO. 1

Location: Lot 2, J Ed Turner Drive, Hattiesburg
Date: 05/23/2014
Price: \$74,900
Size: 5 acres
Price/Acre: \$14,980
Confirmation: MLS # 93409/Coldwell Banker
Comments: Located adjacent to the subject.

LOT SALE NO. 2

Location: Lot 3, J Ed Turner Drive, Hattiesburg
Date: 03/20/2015
Price: \$76,900
Size: 5 acres
Price/Acre: \$15,380
Confirmation: MLS # 93410/Coldwell Banker
Comments: Located two lots east of the subject.

LOT SALE NO. 3

Location: Lot 5, J Ed Turner Drive, Hattiesburg

Date: 08/12/2014

Price: \$72,000

Size: 5 acres

Price/acre: \$14,400

Confirmation: MLS # 93411/Coldwell Banker.

Comments: Located four lots east of the subject.

The above lot sales indicate an unadjusted range in value from \$14,400 to \$15,380 per acre. All are in the subject market segment on the subject street and occurred within the past three years. Research of the market found these sales to be the most recent and relevant to the subject's valuation. After considering time, size, location, topography, and other pertinent factors, the value opinion of the subject site is \$15,000 per acre. Thus the value of the subject is:

Before Value

5 acres @ \$15,000 = \$75,000

After Value

4.83 acres @ \$15,000 = \$72,450

Value Before Taking	\$75,000.00
Value After Taking	72,450.00
Damages	-0-
Just Compensation Due Owner	\$ 2,550.00

The just compensation is the difference in the "before" value and the "after" value, including damages, if any. In the case of the subject property, there were no damages to the remainder.

I appreciate the opportunity to prepare this appraisal report for you. Should you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely

Stan Lightsey

Stan Lightsey, SRA
Appraisal Institute

ADDENDA

APPRAISER'S CERTIFICATION

I certify that, to the best of my knowledge and belief:

- the statements contained in this report are true and correct.
- the reported analyses, opinions, and conclusions are limited only by the reporting assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest with respect to the parties involved unless otherwise stated.
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- my engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation for completing this assignment is not contingent upon the developing or reporting of a predetermined value or a direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- no one provided significant appraisal assistance to the person signing this appraisal unless otherwise noted.
- unless otherwise noted, the person signing this report has not performed an appraisal or rendered any other service regarding the subject property in the past three years.
- The Appraisal Institute conducts a voluntary re-certification process for its designated members. I am currently certified under this program.

Stan Lightsey

Stan Lightsey, SRA

UNDERLYING ASSUMPTIONS AND LIMITING CONDITIONS

This appraisal is subject to the following limiting conditions:

The legal description furnished is assumed to be correct.

No responsibility is assumed for matters of a legal character nor does the appraiser render any opinion as to title which is assumed to be good. All existing liens and encumbrances have been disregarded unless otherwise noted and the property is appraised as though free and clear and under responsible ownership and competent management.

The appraiser believes to be accurate the information provided by others; but assumes no responsibility for its accuracy.

Possession of this report, or a copy thereof, does not carry with it the right of publication, and neither all nor any part of the contents of this report may be disseminated to the public through media of any type nor may be used for any other purpose other than that specified in the engagement by the client without the previous written consent of the appraiser and client particularly as to the value conclusions, the identity of the appraiser or the firm with which he is employed, or to the SRA designation of The Appraisal Institute.

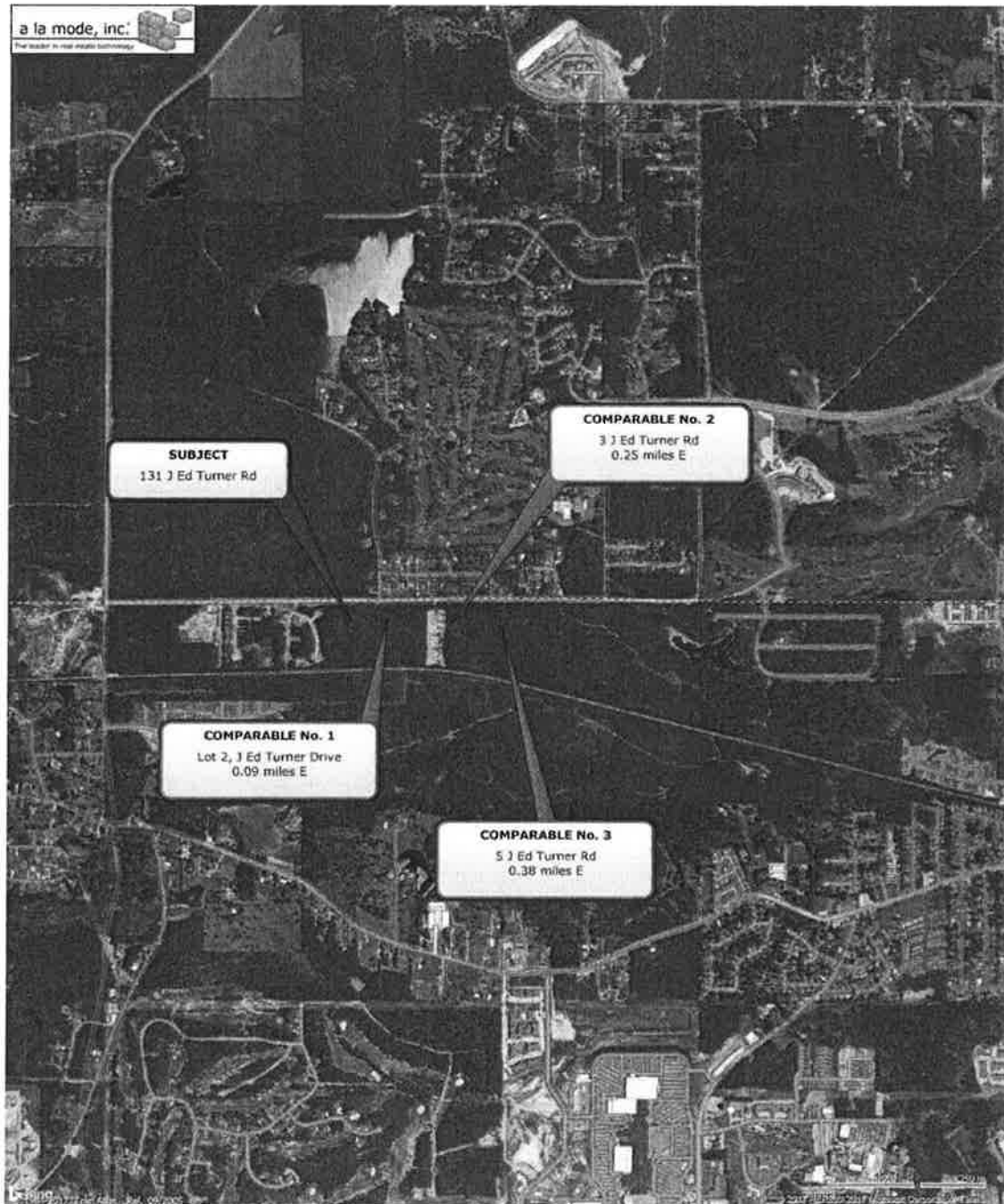
The appraiser will not be required to give testimony or appear in court by reason of this appraisal, with reference to the property in question, unless prior arrangements have been made.

The distribution of the total valuation in this report between land and improvements applies only under the existing program of utilization. The separate valuations for land and improvements must not be used in conjunction with any other appraisal and are invalid if so used.

Unless otherwise stated in this report, the existence of hazardous substances, including but not limited to asbestos, poly-chlorinated biphenyls, petroleum leakage, mold, or agricultural chemicals; which may or may not be present on the property, or other environmental conditions; were not called to the attention of nor did the appraiser become aware of such during the inspection of the property. The appraiser has no knowledge of the existence of such materials on or in the property unless otherwise stated. The appraiser is not an expert in the environmental field and is not qualified to test for such substances or conditions. If the presence of hazardous substances or environmental conditions may affect the value of the property, the value opinion is predicated on the assumption that there is no such condition in or on the property or in such proximity thereto that it would cause a loss in value. No responsibility is assumed for such conditions; nor for any expertise or knowledge required to discover them. The client is advised to retain an expert in the field of environmental impact on real estate if such conditions are suspected.

Location Map

Owner	Brent Bevard				
Property Address	131 J Ed Turner Rd				
City	Hattiesburg	County	Forrest	State	MS Zip Code 39402
Client	City of Hattiesburg				



Flood Map

Owner	Brent Bevard				
Property Address	131 J Ed Turner Rd				
City	Hattiesburg	County	Forrest	State	MS Zip Code 39402
Client	City of Hattiesburg				

InterFlood by a la mode

Prepared for: Lightsey and Associates

131 J Ed Turner Rd

Hattiesburg, MS 39402



MAP DATA

FEMA Special Flood Hazard Area: No
Map Number: 2803SC00850
Zone: X
Map Date: March 02, 2010
FIPS: 28073

MAP LEGEND

- Areas inundated by 500-year flooding
- Areas inundated by 100-year flooding
- Velocity Hazard

- Protected Areas
- Floodway
- Subject Area

Powered by CoreLogic

Tax Data

Delta Computer Systems

Page 1 of 1

Lamar County Mississippi

Powered by:
Delta Computer Systems, Inc.

Property Link

LAMAR COUNTY, MS

Current Date 6/7/2017

Tax Year 2016

Records Last Updated 6/6/2017

PROPERTY DETAIL

OWNER BEVARD BRENT D ACRES : 5.00
76 CLASSIC DR LAND VALUE : 900
HATTIESBURG MS 39402 IMPROVEMENTS : **NA**
TOTAL VALUE: 900
ASSESSED : 135

PARCEL 052A-03-004.050

ADDRESS 131 J ED TURNER DR

TAX INFORMATION

YEAR 2016	TAX DUE	PAID	BALANCE
COUNTY	7.56	7.56	0.00
CITY	6.77	6.77	0.00
SCHOOL	8.64	8.64	0.00
TOTAL	22.97	22.97	0.00

LAST PAYMENT DATE 2/2/2017

MISCELLANEOUS INFORMATION

EXEMPT CODE LEGAL APOT NW 1/4 NE 1/4
HOMESTEAD CODE None B 024G P 446 02/13/2015
TAX DISTRICT 0616
PPIN 036351
SECTION 03
TOWNSHIP 04N
RANGE 14W
Book 024G Page 446

PURCHASE COUNTY TAX SALE FILES

TAX SALES HISTORY, FOR UNPAID TAXES

<u>Year</u>	<u>Sold To</u>	<u>Redeemed Date/By</u>
NO TAX SALES FOUND		



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<http://www.deltacomputersystems.com/cgi-lrm5/LRMCIGI02?HTMCNTY=MS37&HTMB...> 6/7/2017

Photograph Addendum

Owner	Brent Bevard				
Property Address	131 J Ed Turner Rd				
City	Hattiesburg	County	Forrest	State	MS Zip Code 39402
Client	City of Hattiesburg				



Easement Area



Easement Area

Photograph Addendum

Owner	Brent Bevard				
Property Address	131 J Ed Turner Rd				
City	Hattiesburg	County	Forrest	State	MS Zip Code 39402
Client	City of Hattiesburg				



J Ed Turner Drive

QUALIFICATIONS OF STAN LIGHTSEY, SRA

EDUCATION COMPLETED:

University of Southern Mississippi, B.S. Degree, 1974

Appraisal Institute:

The Future of Appraising, 1996
Highest and Best Use Applications, 1996
Environmental Issues, 1996
Appraising & the Internet, 1996
Litigation Skills, 1997
Attacking & Defending an Appraisal in Litigation, 1999
Appraising Partial Interests, 2000
Appraisal of Nonconforming Properties, 2000
Subdivision Analysis, 2001
Course 430, 2001
Special Purpose Properties, 2002
The Technology Assisted Appraiser, 2003
Course 400, 2003
Complex Residential Properties, 2004
Mathematically Modeling Real Estate Data, 2004
Professional's Guide to the URAR, 2005
Residential Sales Comparison Approach, 2005
USPAP Update, 2005
Appraising Environmentally Contaminated Properties, 2006
Appraising Manufactured Housing, 2007
Convenience Stores and Retail Fuel Concessions, 2008
Declining Markets and Sales Concessions, 2008
New Residential Market Conditions Form, 2009
Business Practices and Ethics, 2009
Appraising Distressed Commercial Real Estate, 2009
Market Conditions, 2009
Analyzing the Effects of Environmental Contamination on Real Property, 2010
USPAP Update, 2011
Quality Assurance in Residential Appraisals, 2011
The Lending World in Crisis, 2012
Curriculum Overview, 2013
Business Practice and Ethics, 2014
Supervising Appraisal Trainees, 2014
USPAP Update, 2014
Data Verification-2015
Appraising Convenience Stores-2015
New Technology for Appraisers-2016
Eminent Domain & Condemnation-2017
USPAP Update-2017

MEMBERSHIPS AND APPOINTMENTS:

SRA, The Appraisal Institute

SRA Admissions Committee, The Appraisal Institute

Assistant Regional Member, Review & Counseling Division, the Appraisal Institute

Offices held in Mississippi Chapter of Appraisal Institute:

President-1994

Vice President-1993

Secretary-1992

Director-Three separate terms, last ending in 2017

EMPLOYMENT HISTORY:

Spencer Murphree 1977-1979

Jack Gieger & Associates 1979-1984

Lightsey & Associates 1984-Present

PARTIAL CLIENT LIST:

BancorpSouth Bank

Regions Bank

Hancock Bank

Priority One Bank

Citizens' Bank

FNMA

City of Hattiesburg

City of Columbia

FDIC

Navy Federal Credit Union

Bankplus

University of Southern Mississippi

Forrest General Hospital

Prudential

Forrest County, MS

Jeff Davis County, MS

U. S. Dept. of Justice

Ashland

The First, ANBA

Great Southern National Bank

Trustmark National Bank

Community Bank

First Southern Bank

FHLMC

City of Petal

City of Lumberton

MDOT

Keesler Federal Credit Union

Georgia Pacific

William Carey University

Hattiesburg Clinic

Cartus Corp.

Lamar County, MS

Pearl River County, MS

FBI

Qualified as expert witness in Special Courts of Eminent Domain, County Courts, Circuit Courts, Chancery Courts, and Federal District Court.

WAIVER VALUATION

Parcel No. 052A-03-004-046

Project No. Comswip Sewer Project Phase V

County Lamar

Address: J Ed Turner Road, Hattiesburg, MS

Owner(s): Leslie Rutland

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-046	\$4,500	-0-	-0-	\$4,500

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

[illegible]

Photograph Addendum

Owner	Leslie Rutland					
Property Address	J Ed Turner Rd					
City	Hattiesburg	County	Lamar	State	MS	Zip Code 39402
Client	City of Hattiesburg					



Easement Area



Easement Area



J Ed Turner Drive



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-681

File ID: 2017-681

Type: Regular Agenda Item

Status: Approved

Version: 1

Reference:

In Control: City Council

Requester:

File Created: 08/25/2017

Brief Title: Amended FYE 2017 budget for the Hattiesburg
Amendments to Hattiesburg Convention Commission
2017 budget.

Final Action: 09/05/2017

Minute Book Number: 2017-371

Title:

Acknowledge receipt of and approve amendments to the budget for the
Hattiesburg Convention Commission for fiscal year 2017.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VI.-7

Sponsors:

Enactment Date:

Attachments: FYE 2017 Amended Convention Commission Budget

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017	Acknowledge				Pass
Action Text: A MOTION was made by Council Member Delgado and seconded by Council Member George to Acknowledge receipt of and approve amendments to the budget for the Hattiesburg Convention Commission for fiscal year 2017.							
Rick Taylor, executive director of the Hattiesburg Convention Commission, presented the proposed amendments to the Council.							
There being no discussion, the Motion received the affirmative vote of the Council as follows:							
Yeas: 5 - George, Delgado, Carroll, Dryden and Brown							
Nays: 0							
Yea: 5 Council Member George Council Member Delgado Council President Carroll Council Vice President Dryden Council Member Brown							

Text of Legislative File 2017-681

Title

Acknowledge receipt of and approve amendments to the budget for the Hattiesburg Convention Commission for fiscal year 2017.

Summary

Amendments to Hattiesburg Convention Commission 2017 budget.

Budget Information

Expenditure Type

Purchasing Item

Publication Information

August 4, 2017

Mayor Barker & Members of the City Council
City of Hattiesburg
PO Box 1898
Hattiesburg, MS 39403-1898

Dear Mayor and Council Members:

Greetings from the Hattiesburg Convention Commission. Following, you will find the proposed Hattiesburg Convention Commission's Fiscal Year Ending 2017 Amended Budget. In accordance with governmental accounting practices and guidance from our auditors, the Commission seeks your approval of this amended budget which addresses four changes from the budget approved prior to the start of this fiscal year.

FISCAL YEAR ENDING 2017 AMENDED BUDGET

Estimated Beginning Cash

We anticipated having expended more on the Eureka Phase IV and Zoo projects by the end of Fiscal Year 2016, thus we budgeted lower on Estimated Beginning Cash. However, payments for Eureka Phase IV and Zoo projects overlapped into the 2017 Fiscal Year leaving us with larger than planned Estimated Beginning Cash. We propose to amend the FY2017 Budget to reflect the actual beginning cash reported in the Fiscal Year 2016 Audit.

Special Projects

Bond Money – State and/or Local

We projected to receive \$340,000 from State Bond monies for early development work on the proposed Science Center. Those funds were not approved by the Mississippi Bond Commission and as a result we did not receive the funds.

Expenditures

The proposed expenditures that did not occur in the prior fiscal year as it relates to the Eureka School Museum Project came in during this year, as well as our starting Phase V of the project. As a result, our expenditures occurring in the 2017 Fiscal Year were beyond our anticipation and thus, budgeted figures. We project expending \$1.5 million during the 2017 Fiscal Year on the Eureka School project.

In addition, we took on the Oseola McCarty House museum project after the budget year began and outside of the budget. This project was worthwhile and so the Commission seized the opportunity. This necessitates a budget addition of \$75,000.

We would seek your approval of these amendments to the current year's budget.

Sincerely,

FOR THE COMMISSION

Richard Taylor
Executive Director

attachment

Hattiesburg Convention Commission Fiscal Year 2017 Budget Analysis for All Funds			BUDGET			
Classification	Category	FYE 2017 Totals	FYE 2017 A Totals	\$\$\$ Variation	% Variation	FYE 2017A % of Totals
Income & Beginning Cash	Estimated Beginning Cash (Includes Reserves)	\$3,164,799	\$6,022,740	\$2,857,941	90.3%	45.55%
	Special Sales Tax (2% Food & Beverage Tax Revenue)	\$4,749,520	\$4,749,520	\$0	0.0%	35.92%
	Saenger Theater/ Convention Center / USO / Zoo Revenue	\$1,504,552	\$1,504,552	\$0	0.0%	11.38%
	F&B Revenue	\$940,500	\$940,500	\$0	0.0%	7.11%
	Interest	\$3,665	\$3,665	\$0	0.0%	0.03%
Estimated Total Income & Beginning Cash		\$10,363,036	\$13,220,977	\$2,857,941	27.6%	100.00%
Expenditures	Facilities Operations					
Convention Center	Electricity, Natural Gas, Telecommunications, Janitorial Supplies,	\$2,080,463	\$2,080,463	\$0	0.0%	28.96%
Visitors Center	Safety Equipment, Training, Contracted Services, Animal Feed					
Saenger Theater						
USO	Repairs, Refurbishment, Fixed Assets					
Eureka	Refurbishment of Facilities/ Replacement of Equipment, Fixtures	\$420,756	\$420,756	\$0	0.0%	5.86%
Zoo						
	Insurance, Professional Services, Marketing					
	Trustee Fees, Insurance, Surety Bonds, Audit, Legal Fees,	\$700,800	\$700,800	\$0	0.0%	9.75%
	Saenger Talent Buying, Marketing, Show Production, etc.					
	Staffing Costs (including benefits)					
	Full-time + benefits, Part-time & Event Based Staff	\$3,983,039	\$3,983,039	\$0	0.0%	55.44%
Sub-total Estimated Expenditures		\$7,185,058	\$7,185,058	\$0	0.0%	100.00%
Sub-total Cash - All Funds		\$3,177,978	\$6,035,919	NOTES: (Designated for Zoo) (Designated for Zoo) (Keith's Superstores) (Exhibits) (100% Completion of Eureka) (Annex, Plaster Repair, 2 AC Units) (Hoofstock Barn Expansion, Hyena Compound, etc.) (Project Consulting)		
	Bond Money on Hand	<i>(\$700,000)</i>	<i>(\$700,000)</i>			
	Bond Money - State and/or Local	<i>(\$645,000)</i>	<i>(\$305,000)</i>			
	Special Projects Grants Income (Zoo & Eureka)	<i>(\$15,000)</i>	<i>(\$15,000)</i>			
Project Expenses	Historic USO Club & Museum Development	\$10,000	\$10,000			
	Historic Eureka School Museum Renovation/Development	\$500,000	\$1,500,000			
	Saenger Theater	\$50,000	\$50,000			
	Trolleys	\$0	\$0			
	Zoo	\$700,000	\$700,000			
	Science Exploration Center Project	\$200,000	\$200,000			
	City Partnership for Hwy 49 Landscaping Improvements	\$25,000	\$25,000			
	HWY 49 Beautification	\$40,000	\$40,000			
	Oseola McCarty House	\$0	\$75,000			
Sub-total Estimated Ending Position		\$3,012,978	\$4,455,919			
Designated Reserve Fund (All Facilities)		\$3,012,978	\$4,455,919	*Includes Reserves and Restricted Funds.		



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-687

File ID: 2017-687

Type: Regular Agenda Item

Status: Approved

Version: 1

Reference:

In Control: City Council

Requester: Carter Carroll

File Created: 08/29/2017

Brief Title: Acknowledge receipt of and approve the Hattiesburg Convention Commission Budget for FY 2017-18.
budget for the Hattiesburg Convention Commission.

Final Action: 09/05/2017

Minute Book Number: 2017-371-372

Title:

Acknowledge receipt of and approve the budget for the Hattiesburg Convention Commission for Fiscal Year 2017-2018.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VI.-8

Sponsors:

Enactment Date:

Attachments: FYE 2018 Budget- HCC

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter: Lisa Luu

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017	Acknowledge				Pass

Action Text: A MOTION was made by Council Member Delgado and seconded by Council Member Brown to Acknowledge receipt of and approve the budget for the Hattiesburg Convention Commission for Fiscal Year 2017-2018.

Rick Taylor, executive director of the Hattiesburg Convention Commission, presented the 2017-2018 proposed budget and responded to questions from the Council.

Council member George thanked Mr. Taylor for his presentation and the Convention Commission for partnering with the city this fiscal year for Highway 49 beautification and for extension of the Long Leaf Trace.

Council Vice President Dryden praised the idea of the science exploration programming.

Following discussion, the Motion received the affirmative vote of the Council as follows:

Yeas: 5 - George, Delgado, Carroll, Dryden and Brown

Nays: 0

Yea: 5 Council Member George
 Council Member Delgado
 Council President Carroll
 Council Vice President Dryden
 Council Member Brown

Text of Legislative File 2017-687

Title

Acknowledge receipt of and approve the budget for the Hattiesburg Convention Commission for Fiscal Year 2017-2018.

Summary

Acknowledge receipt of and approve the Hattiesburg Convention Commission Budget for FY 2017-18.

Budget Information

Expenditure Type

Purchasing Item

Publication Information

August 4, 2017

Mayor Barker & Members of the City Council
City of Hattiesburg
PO Box 1898
Hattiesburg, MS 39403-1898

Dear Mayor and Council Members:

Greetings from the Hattiesburg Convention Commission. Following, you will find the proposed Hattiesburg Convention Commission's Fiscal Year Ending 2018 Budget. The Commission seeks your approval of this budget.

FISCAL YEAR ENDING 2018 BUDGET

Estimated Beginning Cash

Having amended the FYE 2017 budget to reflect timing of payments on the Eureka School Museum Project and the acquisition of the Oseola McCarty House, we project to begin the new fiscal year with approximately \$4.46 million as funds on hand. This includes the \$3 million reserve fund established for the Commission as well as restricted funds (State Bond Money) that can only be used for specific developments (mostly Zoo capital improvements).

Revenue

With roughly 2% growth in the special sales tax revenue during the 2017 Fiscal Year, we are budgeting this income to remain flat. Our income growth in 2017, principally at the Zoo and in our Food and Beverage operations, show a solid growth trend. As such, we are projecting an overall earned income growth rate of 12% for the 2018 Fiscal Year. You will see the specific line item budget projections in the accompanying budget.

Expenditures

Facilities Operations

Through various cost-saving measures we believe we can hold our operating costs at roughly the same level as the prior year, despite taking on the Oseola McCarty House and completing the Eureka School Historic Renovation.

Repairs, Refurbishment, & Fixed Assets

We are projecting an increase in repair costs this year due to use and aging of various properties. Of the total projected costs, \$250,000 will be directly focused on repairs at three City-owned properties; the Saenger Theater, the USO Club, and the Zoo. In addition, we plan to construct an on-site storage building at the Convention Center, repair chiller units at the Convention Center, and greatly increase security equipment at all locations. These expenses increase our budget for this category by \$55,000, or 13%.

Insurance, Professional Services, & Marketing

Property and liability insurance costs continue to grow with additional facilities and expansions. In addition, we are investing more funds in show production and talent buying for the upcoming fiscal year, specifically at the Zoo and the Saenger Theater. As a result, we are projecting at 12% increase or \$83,900.

Staffing Costs

With reorganization of one or two departments, we are budgeting to hold staffing costs the same as last year.

Special Projects

Income

As with last year's budget, for clarity we placed special projects income or holdings into this section because such income is restricted in its use to the projects identified.

We project to be holding \$805,000 in restricted use State Bond Monies (2014 and 2016 Legislative Sessions) for the Hattiesburg Zoo at the start of the new Fiscal Year. In addition, we will receive some continuing sponsorships.

Expenditures

At the USO, we have budgeted \$10,000 for exhibit refurbishment and traveling exhibits to take to area schools.

With the completion of the historic renovation of the Eureka School scheduled for December, we are budgeting \$500,000 to start the museum design and construction phase of this project.

On the Saenger Theater, we are allocating \$66,000 to replace 2 HVAC units and repair auditorium ceiling plaster that has turned loose from the original surface over time.

At the Hattiesburg Zoo, we are budgeting \$800,000 to develop a premier animal exhibit. The animal type is not currently decided, but we anticipate the exhibit to be placed in the Africa or Asia areas of the Zoo. We will continue with the plan for expanding the African Hoofstock Barn and the African animal compound and exhibits.

We are allocating \$200,000 to partner with the City to create a Longleaf Trace extension up the old Graveline Railbed from Fourth Street to the African American Military History Museum, Oseola McCarty House Museum and Eureka School Museum as an alternative transportation route to the "East Sixth Street Museum District."

We are also budgeting to move forward on the consulting phase of the Science Exploration Center, continuing to partner with the City, USM and FGH on the Hwy 49 Beautification project and are allocating \$100,000 in funds to fully complete the Oseola McCarty House Museum project on East Sixth Street.

This budget proposal concludes at the recommended reserve funds for the Commission's operations of six (soon to be seven, with the Oseola McCarty House) facilities and the restricted use funds (State Bond Money). We request that you will approve this budget for Fiscal Year Ending 2018.

Sincerely,

FOR THE COMMISSION



Richard Taylor
Executive Director

attachment

Hattiesburg Convention Commission Fiscal Year 2018 Budget Analysis for All Funds			BUDGET			
Classification	Category	FYE 2017A Totals	FYE 2018 Totals	\$\$\$ Variation	% Variation	FYE 2018 % of Totals
Income & Beginning Cash	Estimated Beginning Cash (includes Reserves)	\$6,022,740	\$4,455,919	-\$1,566,821	-26.0%	37.24%
	Special Sales Tax (2% Food & Beverage Tax Revenue)	\$4,749,520	\$4,773,268	\$23,748	0.5%	39.89%
	Saenger Theater/ Convention Center / USO / Zoo Revenue	\$1,504,552	\$1,668,552	\$164,000	10.9%	13.95%
	F&B Revenue	\$940,500	\$1,055,500	\$115,000	12.2%	8.82%
	Interest	\$3,665	\$11,865	\$8,200	223.7%	0.10%
	Estimated Total Income & Beginning Cash	\$13,220,977	\$11,965,104	-\$1,255,873	-9.5%	100.00%
Expenditures	Facilities Operations					
Convention Center	Electricity, Natural Gas, Telecommunications, Janitorial Supplies,	\$2,080,463	\$2,087,538	\$7,075	0.3%	28.48%
Visitors Center	Safety Equipment, Training, Contracted Services, Animal Feed					
Saenger Theater						
USO	Repairs, Refurbishment, Fixed Assets					
Eureka	Refurbishment of Facilities/ Replacement of Equipment, Fixtures	\$420,756	\$475,756	\$55,000	13.1%	6.49%
Zoo						
Oseola McCarty House	Insurance, Professional Services, Marketing					
	Trustee Fees, Insurance, Surety Bonds, Audit, Legal Fees,	\$700,800	\$784,700	\$83,900	12.0%	10.70%
	Saenger Talent Buying, Marketing, Show Production, etc.					
	Staffing Costs (including benefits)					
	Full-time + benefits, Part-time & Event Based Staff	\$3,983,039	\$3,983,039	\$0	0.0%	54.33%
	Sub-total Estimated Expenditures	\$7,185,058	\$7,331,033	\$145,975	2.0%	100.00%
Sub-total Cash - All Funds		\$6,035,919	\$4,634,071	NOTES:		
	Bond Money on Hand	(\$700,000)	(\$805,000)			
	Bond Money - State and/or Local	(\$305,000)	\$0			
	Special Projects Grants Income (Zoo & Eureka)	(\$15,000)	(\$15,000)			
Project Expenses				*KeithCo Sponsorship of Safari Grill		
	Historic USO Club & Museum Development	\$10,000	\$10,000			
	Historic Eureka School Museum Development	\$1,500,000	\$500,000	*Start Museum Components		
	Saenger Theater Repairs	\$50,000	\$66,000	*HVAC units, ceiling plaster repair		
	Zoo Premier Exhibit	\$700,000	\$800,000			
	Longleaf Trace to Museum Extension Match		\$200,000	*Partnership with City		
	Science Exploration Center Project	\$200,000	\$200,000	*Concept development		
	City Partnership for Hwy 49 Landscaping Improvements	\$25,000	\$25,000			
	HWY 49 Beautification	\$40,000				
	Oseola McCarty House	\$75,000	\$100,000			
	Sub-total Estimated Ending Position	\$4,455,919	\$3,553,071			
Designated Reserve Fund (All Facilities)		\$4,455,919	\$3,553,071	*Includes Reserves and Restricted Funds		



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-690

File ID: 2017-690

Type: Regular Agenda Item

Status: Approved

Version: 1

Reference:

In Control: City Council

Requester: Lamar Rutland

File Created: 08/29/2017

Brief Title: Utility easement from Hub City Timber and Land Management

Final Action: 09/05/2017

Minute Book Number: 2017-372

Title:

Acknowledge receipt of Permanent Utility Easement for Mr. Cornell Malone on behalf of Hub City Timber and Land Management for Lamar County Parcel No. 24546, more fully described in the attached document, for the COMSWIP Water Phase V Project.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VI.-9

Sponsors:

Enactment Date:

Attachments: Utility Easement-Hub City Timber and Land Management

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter: Sharon Waits

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017	Acknowledge				Pass
Action Text: A MOTION was made by Council Member Delgado and seconded by Council Member Brown to Acknowledge receipt of Permanent Utility Easement for Mr. Cornell Malone on behalf of Hub City Timber and Land Management for Lamar County Parcel No. 24546, more fully described in the attached document, for the COMSWIP Water Phase V Project.							
There being no discussion, the Motion received the affirmative vote of the Council as follows:							
Yeas: 5 - George, Delgado, Carroll, Dryden and Brown							
Nays: 0							

Yea: 5 Council Member George
Council Member Delgado
Council President Carroll
Council Vice President Dryden
Council Member Brown

Text of Legislative File 2017-690

Title

Acknowledge receipt of Permanent Utility Easement for Mr. Cornell Malone on behalf of Hub City Timber and Land Management for Lamar County Parcel No. 24546, more fully described in the attached document, for the COMSWIP Water Phase V Project.

Summary

Utility easement from Hub City Timber and Land Management



Engineering Progress

August 22, 2017

City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403

Attn: Lamar Rutland, P.E.

Re: ComSWIP Water Phase V

Dear Mr. Rutland:

Enclosed please find an executed Permanent Utility Easement from Mr Cornell Malone. The easement will allow installation of the water line between Interstate 59 and Westover Drive in the ComSWIP Water Phase V Project.

Should you have any questions or comments, please do not hesitate to contact us.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kyle Wallace', is written over a light blue circular background.

Kyle Wallace, P.E.
Project Engineer

/kw

Enclosure

Grantee, prepared by and return to:

The City of Hattiesburg

Engineering Department

Post Office Box 1898

Hattiesburg, MS 39403

Phone: (601) 545-4540

Account No.

Grantor Address:

Hub City Timber and Land Management

Post Office Box 16136

Hattiesburg, MS 39404

Phone: (601) 544-1188

Business No.

PERMANENT UTILITY EASEMENT

INDEXING INSTRUCTIONS:

**Northwest ¼ of the Northeast ¼ of
Section 12, Township 4 North, Range
14 West, City of Hattiesburg, County
of Lamar, Mississippi**

Shows, Dearman and Waits, Inc.
Consulting Engineers
Project No.: 1273-W013
County Parcel No.: 24546

THE STATE OF MISSISSIPPI

County of Lamar

City of Hattiesburg

For and in consideration of Ten Dollars and zero cents 00/100 Dollars (\$ 10.00), and other good and valuable considerations, including the benefits to be derived herefrom, the receipt and sufficiency of which is hereby acknowledged, I/we, the undersigned, hereby grant, bargain, sell, and convey unto the City of Hattiesburg Mississippi, a municipal corporation, a Permanent Utility Easement over, across and upon a parcel of real property, for the construction and maintenance of a proposed water line on the following described property located in the City of Hattiesburg County of Lamar, State of Mississippi:

A part of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 12, Township 4 North, Range 14 West in the City of Hattiesburg, County of Lamar, State of Mississippi, and being more particularly described as follows:

A 10.00 foot wide Utility Easement being described as being a part of the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ of Section 12, Township 4 North, Range 14 West, in the City of Hattiesburg, County of Lamar, State of Mississippi and being more particularly described as **Commencing** at a Mag Nail in Pavement representing the Southwest Corner of said Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$, thence run N88°11'24"E along the South Line of said Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ for 25.91 feet to a $\frac{1}{2}$ Inch Rebar representing a Point on the East Right of Way Line of Westover Drive, a paved public roadway, and the Northwest Corner of the Executive Plaza Subdivision as per map or plat thereof on file in the Office of the Chancery Clerk of said Lamar County, thence run N00°04'46"E along said East Right of Way Line for 494.67 feet to a $\frac{1}{2}$ Inch Rebar representing the Southwest Corner of a Parcel

City of Hattiesburg
County Parcel No.: 24546

of Land described in Record Deed Book 19Q, Page 633 thereof on file in the Office of the Chancery Clerk of said Lamar County, thence run N00°02'38"E along said East Right of Way Line for 134.50 feet to a ¾ Inch Crimp Top Pin representing the Northwest Corner of said Parcel and a Point on the South Line of Grantor's Property as per Record Deed Book 13B, Page 83 thereof on file in the Office of the Chancery Clerk of said Lamar County, said Northwest Corner also being the **Point of Beginning**; thence continue N00°02'38"E along said East Right of Way Line for 10.00 feet to aa 'X' Chiseled in Concrete Pavement, thence run N89°54'15"E and parallel to said South Line of the Grantor's Property for 1,105.61 feet to a ½ Inch Rebar representing a Point on the West Right of Way Line of US Interstate No. 59, thence run S00°54'21"W along said West Right of Way Line for 10.00 feet to a ¾ Inch Crimp Top Pin representing the Southeast Corner of the Grantor's Property, thence run S89°54'15"W along said South Line of the Grantor's Property for 1,105.46 feet to the **Point of Beginning**, comprising **0.25 Acres (11,055 Square Feet)**, more or less.

See Exhibit "A"

The above described parcel being 10.0 feet wide Permanent Utility Easement crossing the Real Property in the County of Lamar Land Records, Deed Book 013, Page 083, Tax Parcel No.: 24546

The Grantee herein is given full rights to do whatever may be necessary and proper for the enjoyment of the rights granted herein, including the right of ingress and egress and the right to clear said easement of selected vegetation such as shrubs, trees, and other vegetation, change of grade, installation and/or removal of pavements and any other structure named herein or otherwise as may be necessary to install and maintain a water line. Grantee will restore any damage caused by this action.

It is further understood and agreed that the consideration herein named is in full, complete and final payment and settlement of any claims or demands for damage accrued, accruing, or to accrue to the grantors herein, their heirs, assigns, or legal representatives, for

City of Hattiesburg
County Parcel No.: 24546

or on account of the construction of the proposed highway, change of grade, water damage, and/or any other damage, right or claim whatsoever.

It is further understood and agreed that this instrument constitutes the entire agreement between the grantor and the grantee, there being no oral agreements or representations of any kind.

Witness (my) (our) signature this the 2ND day of August A.D., 20 17

Signature/Date: E. Permy 10/2/2018 Signature/Date: _____
Print Name: _____ Print Name: _____

Signature/Date: _____ Signature/Date: _____
Print Name: _____ Print Name: _____

STATE OF MISSISSIPPI

COUNTY OF ~~LAMAR~~ FORREST

Personally appeared before me, the undersigned authority in and for the said County and

State, on this 2ND day of AUGUST, 20 17, within my jurisdiction, the

within named E. CORNELL MALONE and
Instrument Signer Name

N/A and N/A who
Instrument Signer Name Instrument Signer Name

acknowledged before me that(he)(she)(they) signed, executed and delivered the above and
foregoing instrument on the day and year therein as their own free and voluntary act and
deed.

Dana M. Hall (NOTARY PUBLIC)

(SEAL)

My commission expires: APRIL 23, 2019





City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-673

File ID: 2017-673

Type: Regular Agenda Item

Status: Approved

Version: 1

Reference:

In Control: City Council

Requester:

File Created: 08/25/2017

Brief Title: Appointment of Ann Jones to Pine Belt Regional Solid Waste Authority Board.

Final Action: 09/05/2017

Minute Book Number: 2017-372

Title:

Ratify and confirm the Mayor's appointment of Ann Jones(W1) to the Pine Belt Regional Solid Waste Authority, for a term(6/30/2017-6/29/2021) beginning September 5,2017 and ending June 29,2021.

Notes:

Agenda Date: 09/08/2017

Indexes:

Agenda Number: VI.-10

Sponsors:

Enactment Date:

Attachments: Data Sheet- Jones

Enactment Number:

Contact:

Meeting Date:

Drafter: Kermas Eaton

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017	Ratify and Confirm				Pass
Action Text: A MOTION was made by Council Member Delgado and seconded by Council Member George to Ratify and confirm the Mayor's appointment of Ann Jones(W1) to the Pine Belt Regional Solid Waste Authority, for a term(6/30/2017-6/29/2021) beginning September 5, 2017 and ending June 29, 2021.							
There being no discussion, the Motion received the affirmative vote of the Council as follows:							
Yeas: 5 - George, Delgado, Carroll, Dryden and Brown							
Nays: 0							
Yea: 5 Council Member George Council Member Delgado Council President Carroll Council Vice President Dryden Council Member Brown							

Text of Legislative File 2017-673

Title

Ratify and confirm the Mayor's appointment of Ann Jones(W1) to the Pine Belt Regional Solid Waste Authority, for a term(6/30/2017-6/29/2021) beginning September 5,2017 and ending June 29,2021.

Summary

Appointment to Pine Belt Regional Solid Waste Authority.

Budget Information

Expenditure Type

Purchasing Item

Publication Information

BOARD/COMMISSION APPOINTMENT DATA SHEET

BOARD/COMMISSION: Pine Belt Regional Solid Waste Authority

TERM OF OFFICE: 4 years PERIOD: 6/30/17-6/29/21

REPLACES Johnny L. DuPree

TERM EXPIRED: X OR RESIGNED: _____ Letter attached _____

DOES THIS POSITION REQUIRE A PUBLIC OFFICIAL'S BOND? YES X NO _____

NAME OF PROPOSED APPOINTEE: Ann Jones

PLEASE GIVE FULL NAME, IF NICKNAME IS USED, PLEASE PUT IN PARENTHESIS ()

ADDRESS: _____

HOME PHONE NUMBER: _____ WARD: _____

PLACE OF EMPLOYMENT: City of Hattiesburg

EMPLOYMENT ADDRESS: P O Box 1898 Hattiesburg, Ms 39403-1898

EMPLOYMENT PHONE NO.: 601-545-4501 POSITION: CAO

PERSON CONTACTED BY: Mayor Johnny L. DuPree DATE: _____

TO BE CONTACTED BY: _____ DATE CONTACTED: _____

AGREED TO SERVE: X DECLINED: _____



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-674

File ID: 2017-674

Type: Regular Agenda Item

Status: Agenda Ready

Version: 1

Reference:

In Control: City Council

Requester:

File Created: 08/25/2017

Brief Title: Set Appeal Hearing - 503 S. 22nd Avenue

Final Action:

Minute Book Number: 2017-373

Title: Acknowledge receipt of request filed by Don Brewster, Owner, to appeal the Hattiesburg Historic Conservation Commission's vote for the petition filed by Sharon & Don Brewster, Owners, to request to remove a grouping of trees for a certain property located at 503 S. 22nd Avenue, (Parcel 039B-17-025.00, PPIN 26916, Ward 4); (On August 9, 2017, the Hattiesburg Historic Conservation Commission voted to APPROVE, provided that only two pine trees are removed from the front yard: one that has been previously "topped" by tree contractors, and one that is significantly leaning toward the house); Set a public hearing before City Council on October 2, 2017 at 4:00 p.m. and authorize publication of Public Notice setting an Appeal Public Hearing.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VII.-1

Sponsors:

Enactment Date:

Attachments: Appeal request_Brewster_503 S 22nd Ave, Public Notice - Public Hearing - Brewster 503 S 22nd Ave

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter: Russell Archer

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017					

Text of Legislative File 2017-674

Title

Acknowledge receipt of request filed by Don Brewster, Owner, to appeal the Hattiesburg Historic Conservation Commission's vote for the petition filed by Sharon & Don Brewster, Owners, to request to remove a grouping of trees for a certain property located at 503 S. 22nd Avenue, (Parcel 039B-17-025.00, PPIN 26916, Ward 4); (On August 9, 2017, the Hattiesburg Historic Conservation

Commission voted to APPROVE, provided that only two pine trees are removed from the front yard: one that has been previously “topped” by tree contractors, and one that is significantly leaning toward the house); Set a public hearing before City Council on October 2, 2017 at 4:00 p.m. and authorize publication of Public Notice setting an Appeal Public Hearing.

Summary

Set Appeal Hearing - 503 S. 22nd Avenue

Budget Information

Expenditure Type

Purchasing Item

Publication Information

Public Notice to set hearing to publish in Hattiesburg American on September 15, 2017 (17 days prior to October 2, 2017 hearing).

FAX

TO: Ginger Maddox, Planning Manager

Dept. of Urban Development

P.O. Box 1898

Hattiesburg, MS 39403

601.554.1031 or Fax 601.545.1962

FROM: Don Brewster and Sharon Brewster

503 South 22Ave.

Hattiesburg, MS 39401

Mailing Address: 72535 Goldfinch Street

Covington, LA. 70435

Original request was removal of a group of three pine trees in the front yard of the house. The Historic Commission's Decision was to ok the removal of two tress but keep the one closest to the house.

We are requesting the removal of pine tree closest to the house. The tree is leaning over the roof and if it snaps it will fall on the roof and cause injury or possible death to occupants.

2 PAGES INCLUDING COVER PAGE

FILED

AUG 17 2017

BY  CITY CLERK
DEPUTY CLERK



Send to:
Ginger Maddox, Planning Manager
Dept. of Urban Development
P.O. Box 1898
Hattiesburg, MS 39403
601.554.1031 or fax 601.545.1962

**REQUEST TO APPEAL HISTORIC CONSERVATION COMMISSION
DECISION**

Today's Date:	8-15-17
Historic Conservation Commission Meeting Date:	8-9-17
<i>(Appeals must be made within 10 consecutive days of the decision)</i>	
Name of Property Owner/Petitioner:	DON BREWSTER
Name of Person Requesting Appeal Hearing:	DON BREWSTER
Mailing Address of Person Requesting Appeal Hearing:	72535 Goldfinch Street Covington LA 70435
Address of Petitioned Property:	503 South 22 AVE. Hattiesburg MS 39401
Petitioner's Request of the Historic Commission:	Removal of Pine tree closest to the house. The tree is leaning over the roof and if it snaps it will fall on the roof and cause injury or possible death to occupants.
Historic Commission's Decision:	Approve ☐ or Deny ☐

I/We hereby APPEAL the Historic Conservation Commission Decision for the above referenced petition and request to hold a Public Hearing before the Hattiesburg City Council.

Don Brewster
Petitioner (signature)

Sharon Brewster
Petitioner (signature)

FILED

AUG 17 2017

CITY CLERK
BY *Cecilia A. Jones*
DEPUTY CLERK

PUBLIC HEARING

NOTICE is hereby given that an application has been filed by Don Brewster, Owner, to appeal the decision made August 9, 2017, by the Hattiesburg Historic Conservation Commission regarding the removal of a grouping of trees at 503 S. 22nd Ave.”.

After hearing, the Hattiesburg Historic Conservation Commission voted that the request be APPROVED, provided that only two of the requested trees are removed, with Don & Sharon Brewster being aggrieved with the decision, filed a request for hearing before the Mayor and City Council of the City of Hattiesburg, as provided by law.

NOW, THEREFORE, NOTICE IS GIVEN that a public hearing in relation to the petition as hereinabove set forth will be held at 4:00 p.m., Monday, October 2, 2017, in the City Hall Building, Second Floor, City Council Room, 200 Forrest Street, Hattiesburg, Mississippi, at which time and at which said hearing all parties of interest and citizens shall have an opportunity to be heard.

WITNESS my signature and the official seal of said City on this, the 5th day of September, 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: Kermas Eaton /s/
CITY CLERK

(SEAL)

Publish (1) Friday, September 15, 2017
City of Hattiesburg
Return PROOF to City Clerk's Office
P.O. Box 1898
Hattiesburg, MS 39403-1898



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-686

File ID: 2017-686

Type: Regular Agenda Item

Status: Agenda Ready

Version: 1

Reference:

In Control: City Council

Requester:

File Created: 08/28/2017

Brief Title: USM's Symphony & Opera Community & Educational Outreach Program's 2016-2017 End-of-Year Report
Acknowledge receipt of and approve the FE 2017-2018 budget for the Hattiesburg Convention Commission.

Final Action:

Minute Book Number: 2017-373

Title:

Acknowledge Receipt of the 2016-2017 End-of-Year Report for the University of Southern Mississippi Symphony & Opera Community & Educational Outreach Program.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VII.-2

Sponsors:

Enactment Date:

Attachments: USM Symphony & Opera Community & Educational Outreach Program End-of-Year Report 2016-17

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017					

Text of Legislative File 2017-686

Title

Acknowledge Receipt of the 2016-2017 End-of-Year Report for the University of Southern Mississippi Symphony & Opera Community & Educational Outreach Program.

Summary

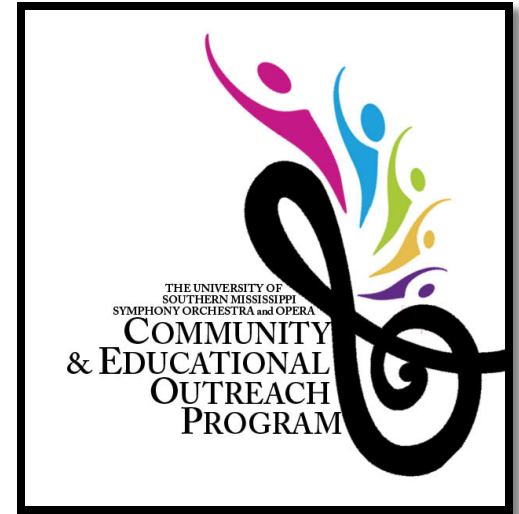
USM's Symphony & Opera Community & Educational Outreach Program's 2016-2017 End-of-Year Report

Budget Information

Expenditure Type

Purchasing Item

Publication Information



University of Southern Mississippi Symphony & Opera Community & Educational Outreach Program

End-of-Year Report
2016-17

University of Southern Mississippi Symphony Orchestra and Opera
End-of-Year Report
2016-17 Community and Educational Outreach Program

TABLE OF CONTENTS

Overview of Goals.....	pg. 2
Overview of Programming.....	pg. 3
Lecture Performances.....	pg. 4-7
USM Symphony Orchestra Projects.....	pg. 8-9
Educational Instruction in Public Schools.....	pg. 10
Community Initiatives.....	pg. 11-13
2016-17 Photo Album.....	pg. 14-52

University of Southern Mississippi Symphony Orchestra and Opera End-of-Year Report 2016-17 Community and Educational Outreach Program

Overview of Goals

The purpose of this narrative is to report the projects of the University of Southern Mississippi Symphony Orchestra and Southern Opera and Musical Theatre Company, during the 2016-17 year, applied to the City of Hattiesburg grant. During this period, the Community and Educational Outreach Program aimed to provide a professional quality educational and cultural experience to students and elderly in our community. This mission is in alignment with the overall mission to present high caliber and diverse artistic and cultural events that enrich and engage people of all ages, ethnicities, and socio-economic levels.

Our projects improve the quality of life for our youth and elderly by expanding access to the arts. This service makes our community a better place to live by providing unique entertainment opportunities as well as building an appreciation for music and the arts. This year, our programming exceeded the quality and quantity of previous years, and we are proud to be investing in the rich future of our community.

Overview of Programming 2016-17

The Community and Educational Outreach Program fulfilled its mission this year in the following ways:

1) Lecture Performances:

Individual chamber music groups and solo performers traveled to schools in the city of Hattiesburg, both public and private, and retirement homes to present lecture recitals of classical style music. This year we were proud to present the Baton Rouge Symphony Wind Quintet and their Symphony Street series. Additionally, CEOP presented 20 free performances to retirement homes all over the community.

2) University of Southern Mississippi Symphony Orchestra Projects:

This year, on October 4 and 5, 2016, the USM Symphony Orchestra, in partnership with the Hattiesburg Arts Council, presented Carnival of the Animals, by Camille Saint-Saens, at the historic Saenger Theater. Additionally, all of the USM Symphony performances at the university were offered for free to schools and retirement homes in the City of Hattiesburg.

3) Educational Instruction, Master Classes and Ensemble Coaching:

Throughout the year, musicians provided one-on-one lessons and ensemble coaching. This occurred at the schools as well as via the Southern Mississippi Youth Orchestra.

4) Community Initiatives:

The Southern Mississippi Youth Orchestra is an educational program that occurs on a weekly basis during the school year. FestivalSouth is one of the largest community initiatives in which the Community and Educational Outreach Program partakes. FestivalSouth 2017 offered 65 events from June 1-17, 22 of which were free and 26 of which were educational. Four educational institutes were hosted during FestivalSouth again this year.

Lecture Performances

Description

The 2016-17 Community and Educational Outreach Program performed nine performances to more than 500 students and community members. These events provided an opportunity for an educational and cultural experience to free of charge, and the musicians traveled to the schools and homes to maximize comfort and accessibility. These performances also provided professional experience for emerging musicians in the performance setting as well as administration for the coordinators of the events. Below is a listing of the demographics for which the program provided services.

Participants: Solo Performers and Small Groups

The Community and Educational Outreach Program presents diverse cultural opportunities to maximize educational exposure. Some of the ensembles that performed in this year's programming include:

Solo Guitar
Guitar Ensemble
3 String quartets
Flute Duo
Flute Ensemble

Solo Voice
Viola Studio
Solo Violin
Undergraduate Flute Quartet
Graduate Flute Quartet

On average, the chamber groups rehearsed together for a minimum of 12 hours for each performance. The Southern Opera and Musical Theatre Company had more than eighty rehearsals over a period of the entire fall and spring semesters. The solo performances generally required a minimum of 30 hours of rehearsal to prepare repertoire efficiently.

Symphony Street

This year, the Community and Educational Outreach Program hosted the Baton Rouge Symphony Wind Quintet in their educational performance entitled "Symphony Street." This creative program featured repertoire that embraced the art of story telling through music. Students gained an appreciation for each instrument in the wind quintet (flute, oboe, clarinet, bassoon, French horn) and how musical collaboration can create positive experiences. These performances occurred at Sacred Heart, Thames Elementary, and Rowan Elementary.

Lecture Performances, continued

Participants: Schools in the City of Hattiesburg

The public and private schools included in the Community and Educational Outreach Program are:

1) Public Schools: Hattiesburg Public School District

Elementary Schools:

Grace Christian Elementary
Hawkins Elementary
Rowan Elementary
Thames Elementary
Woodley Elementary

Secondary Schools:

Lillie Burney STEAM Academy
Hattiesburg High School
NR Burger Middle School

2) Private Schools

Sacred Heart Elementary School
Sacred Heart High School
Presbyterian Christian Elementary School
Presbyterian Christian Secondary School
Presbyterian Christian High School

Participants: Retirement Communities & Assisted Living Homes

The retirement communities and assisted living homes included in the Community and Educational Outreach Program are:

The Claiborne
Provision Living
Alden Pointe
Wesley Manor
Hattiesburg Health and Rehab
Windham House
Brookdale Hattiesburg
Bedford Care of Hattiesburg

Lecture Performances, continued

Schedule of Community Performances, Fall

Type	Location	Date	Ensemble
Community Performance	Bedford Care Alzheimers Unit	Nov. 3	Viola Studio
Community Performance	Wesley Manor	Nov. 4	String Quartet
Educational Performance	Hawkins	Nov. 9	Juliana Gaviria, violin, 8:30
Community Performance	Hattiesburg Health and Rehab	Nov. 9	Juliana, Gaviria, 10:00am
Community Performance	Provision Living	Nov. 10	Guitar Studio 11am
Educational Performance	Hawkins	Nov. 11	Juliana Gaviria, violin, 8:30
Educational Performance	Burger Middle School	Nov. 11	Juliana Gaviria, violin, 11:20
Educational Performance	Rowan	Nov. 14	String Quartet
Community Performance	Brookdale	Nov. 15	Undergraduate Flute Quartet, 2:30pm
Educational Performance	Woodley	Nov. 16	Juliana Gaviria, violin, 11:30
Community Performance	The Claiborne	Nov. 17	Graduate Flute Quartet, 5:00pm
Community Performance	The Claiborne	Nov. 23	Nicholas Ciraldo, guitar
Community Performance	Hattiesburg Health and Rehab	Dec. 1	Flute Duo, 2:30
Community Performance	The Claiborne	Dec. 8	Guitar Studio, 11:15
Community Performance	Wesley Manor	Dec. 9	Flute Duo 3:30 (look for director, not Kayla)
Community Performance	Brookdale	Dec. 13	Flute Duo, 5:30-6:30
Community Performance	The Claiborne	Dec. 28	String Quartet, 3:00pm

Lecture Performances, continued

Schedule of Community Performances, Spring

Educational Performance	The Claiborne	Feb. 8	String Quartet, 3:30pm
Community Performance	Brookdale, Alzheimers	Feb. 10	String Quartet, 3:30pm
Community Performance	Brookdale, Independent	Feb. 10	String Quartet, 4:30pm
Community Performance	Thames Elementary	Feb. 17	Ezekiel McCall
Educational Performance	PCS -high school choir: 12:44-1:36.	Feb. 17	Ezekiel McCall
Educational Performance	PCS High-junior high: 1:41-2:33.	Feb. 17	Ezekiel McCall
Community Performance	The Claiborne, East	Mar. 9	Flute Quartet 4:30
Community Performance	The Claiborne, West	Mar. 9	Guitar Studio
Community Performance	Brookdale, Independent	Apr. 7	Ting Quartet
Community Performance	Brookdale, Alzheimers	Apr. 11	String Quartet (Manuela) (1:00)
Educational Performance	Symphony Street- Thames	Apr. 20	BRSO
Educational Performance	Symphony Street-Rowan	Apr. 20	BRSO
Educational Performance	Symphony Street- Sacred Heart	Apr. 20	BRSO
Community Performance	Brookdale Family Night	May. 9	Ana Maria Quartet

University of Southern Mississippi Symphony Orchestra Projects

Description:

The University of Southern Mississippi Symphony Orchestra is the oldest orchestra in the state of Mississippi and the only full orchestra in this region of the state. With almost 80 instrumentalists, it serves as a great resource for attracting international students, displaying great diversity. A few of these students also teach special classes to students in the Hattiesburg Public School string program.

Programs:

There were TWO main projects offered by the full orchestra this year.

- 1) Carnival of the Animals: There were five performances of the humorous musical suite of Carnival of the Animals by Camille Saint-Saens on October 4 and 5, 2016. This production was the result of a collaborative partnership between the USM Symphony, the Hattiesburg Arts Council, and On Your Toes Dance Studio in Petal, MS. Each performance featured visual arts, dance, and live music and was held at the Saenger Theater in Historic Downtown Hattiesburg, giving each participant a memorable and meaningful theater experience. 1,794 students and 60 teachers attended, from schools districts all around the region, including Greenville, MS.
- 2) All seven of the USM Symphony Orchestra performances during the school year were offered for free to Hattiesburg Public School students who have a valid school ID. These performances occurred on the campus of the USM and at Main Street Baptist Church. Students are given access to performance by local talent as well as world-renowned performers.

These performances are listed below:

- a. September 29, 2016
- b. October 13, 2016
- c. November 3, 2016
- d. December 6, 2016
- e. February 14, 2017
- f. March 30, 2017
- g. May 4, 2017

University of Southern Mississippi Symphony Orchestra Projects, continued

Goals Achieved:

Because the USM Symphony Orchestra is the only full orchestra in this region, it provides an invaluable service to the community, preserving, performing, and promoting music written specifically for this genre. All students can attend the performances for free and can experience a professional level performance without traveling beyond the city limits. The Symphony provides exposure to an art form with great history and huge entertainment value.

These programs demonstrated the benefits of the incorporation of interdisciplinary art forms as well as city-wide collaboration.

Educational Instruction in the Hattiesburg Public Schools

Description:

i) Ensemble Coaching and Private Lessons

USM students gain valuable teaching experience through individual private instruction as well as youth ensemble coaching. One performance major and one education major at the University of Southern Mississippi fulfilled the role of this portion of the Community and Educational Outreach Program. Throughout the school year, these students taught sectionals, led the ensembles during rehearsals, and managed administrative roles, including copying and printing of music as well as arranging sections and classes. During this experience, they gained valuable experience in the actual field in which they will pursue work upon graduation.

The students of the public and private schools who receive services through this portion of the Program are the same as listed under the Lecture Performances portion of this report.

Goals Achieved:

Through the Individual Instruction portion of the Community and Educational Outreach Program, students of the schools in the city of Hattiesburg receive professional level instruction at no cost. This education is continuous through the school year allowing for guidance and consistency. The teachers who travel to the schools receive real-world experience, preparing them for careers in education, as most musicians manage private studios. Furthermore, these teachers have the opportunity to develop teaching skills that they will use for a lifetime.

Community Initiatives

Description of Community Initiatives

- 1) The Southern Mississippi Youth Orchestra aims to provide young musicians the opportunity to perform master classes and to encourage leadership and discipline while cultivating an appreciation of music and the arts in the community. This program provides orchestral experience, coaching, and master classes to players 18 and younger who demonstrate serious interest in orchestral playing. This program benefits local string programs in the schools of the City of Hattiesburg by increasing playing levels, developing an appreciation for music and the arts, and providing team work skills in both large and group settings. Ensembles meet weekly, and students have opportunities to work with professional musicians in the ensembles.
- 2) FestivalSouth 2017 is by far the largest community outreach effort by the Community and Educational Outreach Program. In partnership with the Hattiesburg Concert Association, 65 events were presented between June 1-June 17, 2017. All events offered recreational, cultural, educational, and entertainment opportunities for attendees of all ages. This year, attendance was calculated at 15,612. Of these, 632 performers were employed and over 3800 of the participants were under the age of 18.
 - In addition to being identified on all printed and social media outlets, The City of Hattiesburg was recognized for their support at a key event during FestivalSouth this year, the *FestivalFinale*. This event featured Grammy Award winner Patti Austin and the FestivalOrchestra. She performed a special Ella Fitzgerald Tribute at the Historic Saenger Theater. More than 400 people attended this exceptional event.
 - This year, FestivalSouth participated in the Mississippi Bicentennial Celebration by offering 27 events featuring Mississippi based people, places, and themes. The largest event was the We Are Mississippi: A Bicentennial Celebration concert with the FestivalOrchestra and more than 20 vocalists and performers, including Vasti Jackson, Tom “Bones” Malone and even Elvis. The Festival also featured a subseries entitled the Life and Legacy of Jim Henson. This included FestivalSouth’s first ever Mobile Museum as well as two puppet shows, a puppet workshop, a puppet factory, and Jim Henson movies, including “The Dark Crystal,” “The Muppet Movie,” and “Labyrinth.” The Life and Legacy of Jim Henson Mobile Museum was displayed at 13 different locations and presented 12 panels reviewing the impact this Mississippian had and continues to have on television, movie-making, literature, and puppetry arts.

Community Initiatives, continued

(FestivalSouth, continued)

- 26 events during FestivalSouth were specifically designed with educational goals in mind. Overall, 22 events were offered for free. The Hub City Players and FestivalSouth presented a musical theater production of Roald Dahl's classic story "James and the Giant Peach," and offered a free community performance for students, veterans, and underprivileged community members. All of the Artie Events for Families featured educational topics, specifically the Artie Reads events.
- There were four *Educational Institutes* offered during FestivalSouth 2017 similar to the previous year. . Each institute provides private and group instruction to students, taught by masters of each field, and culminates in a final performance during FestivalSouth.
 - 1) Southern Flute Festival
 - 2) FestivalSouth Orchestra and Chamber Music Academy
 - 3) My First Strings Camp
 - 4) Southern Institute for Music Education
- *Artie Events for Families* are specifically designed to reach our youngest cultural participants. Artie's motto is Arts, A Road to Success (A.R.T.S.), and its goals are to entertain and educate our youth, develop an appreciation of culture in our community, and plant the seeds for future cultural support and development. These programs are created with special consideration of the specific learning styles of children, appealing to all their senses and often providing a hands-on opportunity for each audience member, young and old. Furthermore, these daytime events appeal to the entire family and thus provide cultural opportunities to an audience that can often be excluded from evening time events. Fourteen Artie events were offered during FestivalSouth this year. The Artie Reads events this year were some of the most successful, especially the Celebration of Jim Henson that exceeded venue capacity. In an effort to better reach the Hispanic community again this year, the Artie flyers were translated into Spanish.
- This year, the *Youth Ambassador Program*, which began in 2016, grew from 11 participants to 30 this year. Students from multiple school districts, including Hattiesburg, Oak Grove, Petal, and Purvis, applied to be part of the community initiative. Their total volunteer hours exceeded 500 hours assisting the producing, managing, and administering the Artie Events for Families as well as many of the larger FestivalSouth events.

Community Initiatives, continued

Goals Achieved:

The Community Initiatives are a major component of the projects achieved by the Community and Educational Outreach Program. Through these events, the program reaches the widest range of age demographics possible. These programs occur year round and create lasting memories that develop a life long appreciation for music education. FestivalSouth serves the residents of and tourists to Mississippi by increasing quality of life, providing educational, enriching, and engaging cultural experiences, and contributing to the vitality of the cultural economy of the state.

University of Southern Mississippi Symphony Orchestra and Opera
End-of-Year Report

2016-17 Community and Educational Outreach Program
Photo Album

Lecture Performances

Solo Vocalist



Lecture Performances, continued: Solo Violinist



Lecture Performances, continued: Solo Violinist



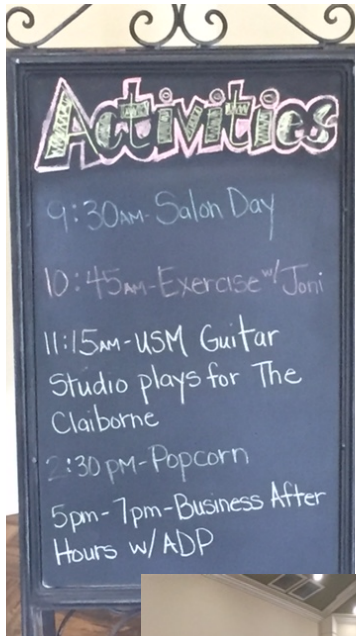
Lecture Performances, continued: USM Brahms String Quartet



Lecture Performances, continued: USM Graduate Flute Quartet



Lecture Performances, continued: USM Guitar Studio



Lecture Performances, continued: USM Guitar Studio



Lecture Performances, continued: The Klangfarben String Quartet



Lecture Performances, continued: Solo Guitar



Lecture Performances, continued: The USM Stravinsky String Quartet



Lecture Performances, continued: USM Trio Latino



Lecture Performances, continued:

USM Undergraduate Flute Quartet



USM Symphony Orchestra: Carnival of the Animals, Camille Saint-Saens



USM Symphony Orchestra: Carnival of the Animals, Camille Saint-Saens, continued



USM Symphony Orchestra: Carnival of the Animals, Camille Saint-Saens, continued



Southern Mississippi Youth Orchestra



Southern Mississippi Youth Orchestra, continued



FestivalSouth 2017: FestivalFinale




 **FORREST GENERAL HOSPITAL**
 PRESENTS
ELLA FITZGERALD
THE FIRST LADY OF SONG
 CELEBRATING HER 100TH BIRTHDAY
 FEATURING
 GRAMMY AWARD-WINNER
Patti Austin
 WITH THE FESTIVAL ORCHESTRA
Presented with support from
the City of Hattiesburg
THIS SATURDAY
 JUNE 17, 7:30 P.M.
 THE SAENGER THEATER

Grammy Award-winner Patti Austin crosses all musical genres, has made 17 solo albums, and has performed her award-nominated hit songs on the GRAMMYS® and the Oscars. As a performer, songwriter and vocalist she has had a star-studded career that began at the age of four, making her one of the most beloved artists over the world and a mainstay on the Billboard Jazz Albums charts.



In this spectacular FestivalFinale, she pays homage to the iconic American songstress, Ella Fitzgerald, an unbelievable singer, who was able to turn her voice inside out and let us feel the music the way she felt it.

Don't miss this incredible evening of music in a star-studded performance!

 **ART WORKS**
 **mac**
 **VISIT MISSISSIPPI**
This project is supported in part by funding from the Mississippi Arts Commission, a state agency, and in part from the National Endowment for the Arts, a federal agency.

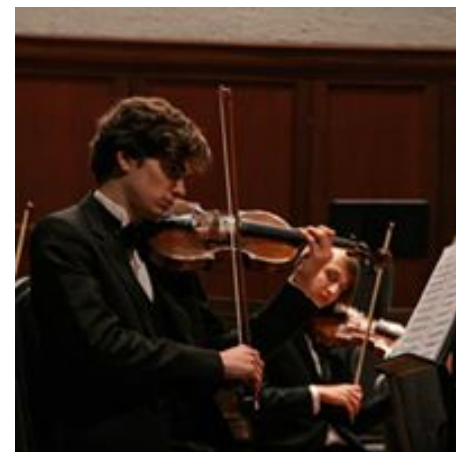
TICKETS 800.844.8425 601.266.5418
 DAY OF THE SHOW AT THE DOOR ONE HOUR PRIOR WHILE THEY LAST

www.festivalouth.org

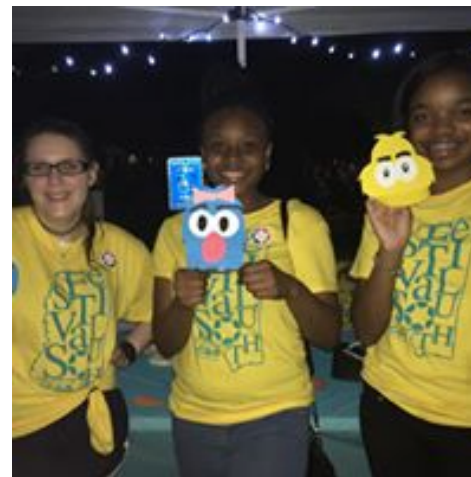
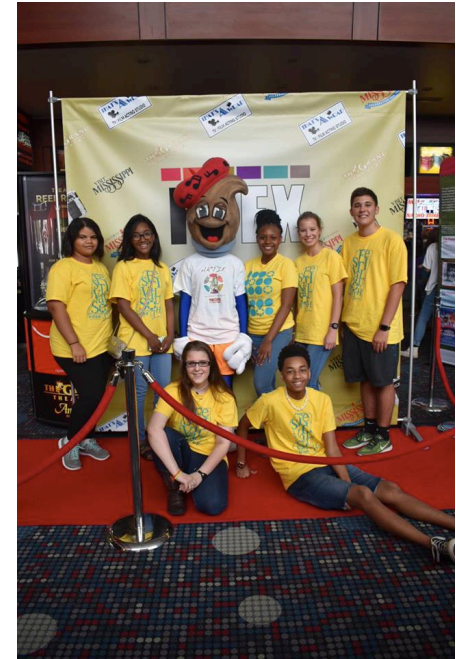


FestivalSouth 2017:

FestivalSouth Chamber Music and Orchestral Academy



FestivalSouth 2017: Youth Ambassadors



FestivalSouth 2017: Artie Events for Families



FestivalSouth 2017: Artie Events for Families, continued



FestivalSouth 2017: Artie Events for Families, continued



FestivalSouth 2017:

Artie Events for Families, continued



FestivalSouth 2017



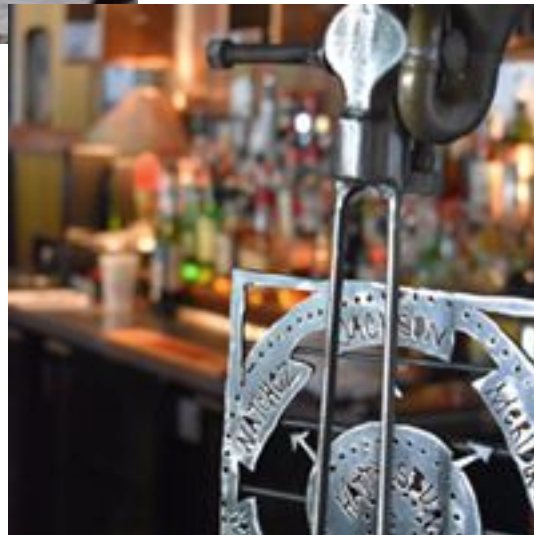
FestivalSouth 2017



FestivalSouth 2017



FestivalSouth 2017



FestivalSouth 2017



FestivalSouth 2017



FestivalSouth 2017:

We Are Mississippi: A Bicentennial Celebration



We Are Mississippi: A Bicentennial Celebration Concert



We Are Mississippi: A Bicentennial Celebration Concert, continued



We Are Mississippi: A Bicentennial Celebration; The Life and Legacy of Jim Henson



We Are Mississippi: A Bicentennial Celebration; The Life and Legacy of Jim Henson Mobile Museum



We Are Mississippi: A Bicentennial Celebration; The Life and Legacy of Jim Henson Puppetry Arts Events



We Are Mississippi: A Bicentennial Celebration; The Life and Legacy of Jim Henson Puppetry Arts Events



FestivalSouth 2017





City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-700

File ID: 2017-700

Type: Regular Agenda Item

Status: Agenda Ready

Version: 1

Reference:

In Control: City Council

Requester:

File Created: 08/30/2017

Brief Title: Bids fo Legal Advertising for The City of Hattiesburg.

Final Action:

Minute Book Number: 2017-373

Title:

Approve Specifications and Authorize Publication of Advertisement for Legal Advertising for the City of Hattiesburg.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VII.-3

Sponsors:

Enactment Date:

Attachments: NTB- Legal Advertising, Specs- Legal Advertising

Enactment Number:

Contact:

Meeting Date:

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017					

Text of Legislative File 2017-700

Title

Approve Specifications and Authorize Publication of Advertisement for Legal Advertising for the City of Hattiesburg.

Summary

Bid for Legal Advertising for the City of Hattiesburg.

Budget Information

Expenditure Type

Purchasing Item

Publication Information

NOTICE TO BIDDERS

NOTICE is hereby given that the Mayor and Council of the City of Hattiesburg, Mississippi will receive sealed bids until 10:00 A.M., Thursday, September 28, 2017, in the City Clerk's Office in the City Hall of said City for furnishing the City's requirements of the following:

LEAGL ADVERTISING FOR THE CITY OF HATTIESBURG.

The above shall bid upon and delivered as per detailed specifications on file in the Office of the City Clerk, P. O. Box 1898, 200 Forrest Street, Hattiesburg, Mississippi, 39403-1898, (601) 545-4552, which may be obtained upon request.

Each BID must be received in a sealed envelope which is marked in the lower left-hand corner with the word "BID" and the NAME OF ITEM on which bid is being made and the DATE OF BID OPENING.

The lowest and best bid received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code of 1972, Annotated as Amended, and other applicable State law; but the Council reserves the right to reject any or all bids received and to waive informalities.

PUBLISHED by Order of the Council on this, the 5th day of September, 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: Kermas Eaton/s/
CITY CLERK

(S E A L)

Publish 9/8/2017 & 9/15/2017

SPECIFICATIONS FOR: LEGAL ADVERTISING FOR THE CITY OF HATTIESBURG.

Bidder shall bid on furnishing the above item(s) for the City of Hattiesburg which meets or exceeds the following specifications, to wit:

PRICES shall be firm for a period beginning October 1, 2017 and ending September 30, 2018

Rate per word first insertion: _____

Rate per word for any and all subsequent insertions: _____

Proposals may be submitted on your company's letterhead listing your rate.

The lowest and best bid received will be accepted, subject to the provisions of Section 31-7-13 of the Mississippi Code 1972, Annotated as Amended, and other applicable State Law; but Council reserves the right to reject any and all bids received and to waive informalities.

APPROVED on this the 5th day of September A.D., 2017.

CITY OF HATTIESBURG, MISSISSIPPI

BY: Kermas Eaton

CITY CLERK



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-683

File ID: 2017-683

Type: Regular Agenda Item

Status: Agenda Ready

Version: 1

Reference:

In Control: City Council

Requester: Deborah Bourne

File Created: 08/28/2017

Brief Title: Approve the sale of Grave spaces, per attached memo.

Final Action:

Minute Book Number: 2017-373

Title:

Approve the sale of grave spaces, per attached memo.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VII.-4

Sponsors:

Enactment Date:

Attachments: Receipts & Memos (9-5-17), Deeds (09-05-17),
executed Deeds (09-05-17)

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017					

Text of Legislative File 2017-683

Title

Approve the sale of grave spaces, per attached memo.

Summary

Sale of grave spaces.

Budget Information

Expenditure Type

Purchasing Item

Publication Information

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., 08-15 20 17

SOLD TO:

Mr.. Mrs. Miss Beverly Young

ADDRESS 622 New Orleans St Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N 1/2 NW 1/4 Lot No. 62 Section No. 31 in Highland Cemetery

Number of grave spaces _____ Price per grave space \$ 175.00

Price Received \$ 175.00

CK# 12526

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

**CITY OF HATTIESBURG
PURCHASE OF CEMETERY GRAVE SPACES**

Hattiesburg, Miss., 08-14 20 17

SOLD TO:

Mr.. Mrs. Miss Ilean Payton

ADDRESS 608 Meadow Lane Drive Hattiesburg, MS 39401

desires to purchase the grave space described below, subject to Cemetery regulations.

N 1/2 SW 1/4 Lot No. 45 Section No. 30 in Highland Cemetery

Number of grave spaces 1 Price per grave space \$ 175.00

Price Received \$ 175.00

cash

CITY OF HATTIESBURG, MISSISSIPPI

By [Signature]
Supt. of City Cemeteries

To: CITY COUNCIL

From: Deborah Bourne, Assistant Division Manager of Cemeteries

Date: August 24, 2017

The following represents the grave spaces sold on August 24, 2017

Beverly Young

(1) Space \$ 175.00

North Half (N1/2) of the Northwest Quarter (NW1/4)

Lot 62, Section 37, Highland Cemetery

Ilean Payton

(1) Space \$ 175.00

North Half (N1/2) of the Southwest Quarter (SW1/4)

Lot 45, Section 30, Highland Cemetery

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Beverly Young, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N½) of the Northwest Quarter (NW¼)

Lot 62

Section 37

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 5th day of September, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally, appeared before me, the undersigned authority in and for said County and State, Toby Barker and Kermas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 5th day of September, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Ilean Payton, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N½) of the Southwest Quarter (SW¼)

Lot 45

Section 30

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 5th day of September, 2017.

ATTEST:

CITY OF HATTIESBURG, MISSISSIPPI

CITY CLERK

MAYOR

(S E A L)

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally, appeared before me, the undersigned authority in and for said County and State, Toby Barker and Kermas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 5th day of September, 2017.

My Commission Expires:

NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Beverly Young, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N½) of the Northwest Quarter (NW¼)

Lot 62

Section 37

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

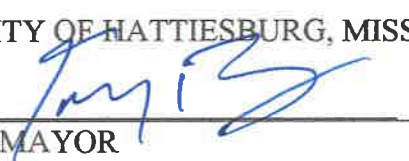
GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 5th day of September, 2017.

ATTEST:


CITY CLERK

CITY OF HATTIESBURG, MISSISSIPPI


MAYOR

(S E A L)

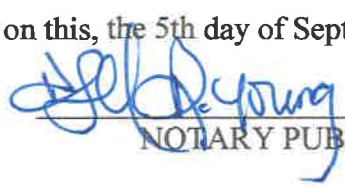
STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally, appeared before me, the undersigned authority in and for said County and State, Toby Barker and Kermas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal in my office on this, the 5th day of September, 2017.

My Commission Expires:




NOTARY PUBLIC

STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR
CITY OF HATTIESBURG
HATTIESBURG, MS

**DEED TO CEMETERY LOT
HIGHLAND CEMETERY**

For and in consideration of the sum of ONE HUNDRED SEVENTY-FIVE AND NO/100 Dollars (\$175.00), cash in hand paid to the City of Hattiesburg, Mississippi, the City of Hattiesburg, Mississippi acting by and through its duly authorized Mayor and City Clerk does hereby bargain, sell and convey unto Ilean Payton, subject to the reservations and restrictions hereinafter set out and subject to rules and regulations now or hereafter adopted, the following described grave spaces:

North Half (N½) of the Southwest Quarter (SW¼)

Lot 45

Section 30

according to the Cemetery Survey of the City of Hattiesburg, Mississippi known as Highland Cemetery, and containing

One (1) Grave space (s).

SAID Lot shall be used for burial purposes only and all graves therein must be checked and laid out by the Cemetery sexton before the same is dug and must be at least 4 feet deep and shall be, when completed, level with the ground. No shrubbery, vines or trees shall be planted in the Cemetery Lot and there shall be nothing left above the ground except markers which may be erected to meet all City regulations and requirements. All burials in the grave space(s) herein conveyed shall comply with applicable State and Federal laws governing human burial and with City rules and regulations pertaining thereto. If boxes or vaults are used they shall be at least 10 inches below the ground level.

GRANTEE herein shall not sell or convey this lot without a written permit from the Mayor and Council of the City of Hattiesburg, Mississippi.

WITNESS the signature and seal of the City of Hattiesburg, Mississippi, a Municipal Corporation, acting, by and through its duly authorized Mayor and City Clerk, on this, the 5th day of September, 2017.

ATTEST:


CITY CLERK

CITY OF HATTIESBURG, MISSISSIPPI

MAYOR

(S E A L)

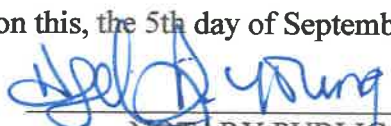
STATE OF MISSISSIPPI
COUNTY OF FORREST/LAMAR

Personally, appeared before me, the undersigned authority in and for said County and State, Toby Barker and Kermas Eaton, Mayor and City Clerk, respectively, of the City of Hattiesburg, Mississippi, a municipal corporation, each of whom acknowledged before me that they signed, executed and delivered the above and foregoing Cemetery Deed on the day and year therein mentioned as the act and deed of the City of Hattiesburg after having first been authorized so to do.

Given under my hand and official seal of office on this, the 5th day of September, 2017.

My Commission Expires:




NOTARY PUBLIC



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-701

File ID: 2017-701

Type: Regular Agenda Item

Status: Agenda Ready

Version: 1

Reference:

In Control: City Council

Requester:

File Created: 08/30/2017

Brief Title: Claims Docket 8-31-17

Final Action:

Minute Book Number: 2017-373

Title:

Approve claims docket for the period ending August 31, 2017

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VII.-5

Sponsors:

Enactment Date:

Attachments: August 31, 2017 Claims Docket

Enactment Number:

Contact:

Meeting Date:

Drafter:

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
1	City Council	09/05/2017					

Text of Legislative File 2017-701

Title

Approve claims docket for the period ending August 31, 2017

Summary

Claims Docket ending 8-31-17

Budget Information

Expenditure Type

Purchasing Item

Publication Information

00001 BEALL TIMBER	PO#172567 8/ 00172567 16007691 GRIND LANDFILL DEBRIS MATLS	08/31/17	259394	8,000.00-

BEALL TIMBER				
Sum				8,000.00-
00001 BIG IRON DIESEL REPAIR L RO1797	00170768 16007764 REPRS U#16083	08/31/17	259398	2,571.15-
00001 BIG IRON DIESEL REPAIR L RO1796	00170769 16007765 REPRS U#16082	08/31/17	259398	1,967.29-

BIG IRON DIESEL REPAIR L				
Sum				4,538.44-
00001 BOURNE BROTHERS PRINTING 61002	00170169 16007774 VARI STAMPS MUN COURT	08/31/17	259404	227.63-
00001 BOURNE BROTHERS PRINTING 61258	00170758 16007799 HATTIESBURG READS SIGN	08/31/17	259404	110.00-
00001 BOURNE BROTHERS PRINTING 61256	00170773 16007800 HATTIESBURG READS SIGN	08/31/17	259404	110.00-

BOURNE BROTHERS PRINTING				
Sum				447.63-
00001 BRACKMAN MOWER WAREHOUSE 33343	00172665 16007738 LAWN MOWER BLADES	08/31/17	259405	576.00-

BRACKMAN MOWER WAREHOUSE				
Sum				576.00-
00001 BUTLER, ANNESSIA (REFUND DAMAGE DEP R 02017778	16007879 DAMAGE DEPOSIT REFUND	08/31/17	259411	600.00-

BUTLER, ANNESSIA (REFUND				
Sum				600.00-
00001 CANON FINANCIAL SERVICES 17654102	00172894 16007900 COPIER 8/17 PURCHASING	08/31/17	259412	115.00-

CANON FINANCIAL SERVICES				
Sum				115.00-
00001 CHIEF LAW ENFORCEMENT SU 218424	00172854 16007927 DRUG TEST KITS POLICE DEPT	08/31/17	259417	588.50-
00001 CHIEF LAW ENFORCEMENT SU 217414	00171956 16007928 DRUG TEST KITS POLICE DEPT	08/31/17	259417	364.25-

CHIEF LAW ENFORCEMENT SU				
Sum				952.75-
00001 CINTAS CORPORATION #J66 J66552965	00172787 16007791 MATS 8/21 TRAFFIC	08/31/17	259420	7.90-
00001 CINTAS CORPORATION #J66 J66552964	00172787 16007792 MOP/MAT 8/21 GO&FS	08/31/17	259420	24.04-
00001 CINTAS CORPORATION #J66 J66552962	00172787 16007793 MOP/MAT 8/21 SANIT	08/31/17	259420	24.96-
00001 CINTAS CORPORATION #J66 J66552963	00172879 16007847 UNIFORMS 8/21 TRAFFIC	08/31/17	259420	39.11-
00001 CINTAS CORPORATION #J66 J66552963	00172879 16007848 UNIFORMS 8/21 PUBLIC WORKS	08/31/17	259420	65.66-
00001 CINTAS CORPORATION #J66 J66552963	00172879 16007849 UNIFORMS 8/21 PUBLIC WORKS	08/31/17	259420	10.00-
00001 CINTAS CORPORATION #J66 J66552963	00172879 16007850 UNIFORMS 8/21 PUBIC WORKS	08/31/17	259420	30.44-
00001 CINTAS CORPORATION #J66 J66552963	00172879 16007851 UNIFORMS 8/21 SHOP	08/31/17	259420	61.00-
00001 CINTAS CORPORATION #J66 J66552963	00172879 16007852 UNIFORMS 8/21 CONSTR	08/31/17	259420	77.83-
00001 CINTAS CORPORATION #J66 J66552963	00172879 16007853 UNIFORMS 8/21 SANIT	08/31/17	259420	178.89-
00001 CINTAS CORPORATION #J66 J66552963	00172879 16007854 UNIFORMS 8/21 HEALTH	08/31/17	259420	159.21-
00001 CINTAS CORPORATION #J66 J66551292	00172882 16007855 UNIFORMS 8/04 CEM/FORESTRY	08/31/17	259420	52.58-
00001 CINTAS CORPORATION #J66 J66552053	00172882 16007856 UNIFORMS 8/11 CEM/FORESTRY	08/31/17	259420	52.58-
00001 CINTAS CORPORATION #J66 J66552819	00172882 16007857 UNIFORMS 8/18 CEM/FORESTRY	08/31/17	259420	67.76-
00001 CINTAS CORPORATION #J66 J66553596	00172882 16007858 UNIFORMS 8/25 CEM/FORESTRY	08/31/17	259420	74.58-
00001 CINTAS CORPORATION #J66 J66551293	00172882 16007859 MOP/MAT 8/04 CEM/FORESTRY	08/31/17	259420	15.70-
00001 CINTAS CORPORATION #J66 J66552054	00172882 16007860 MOP/MAT 8/11 CEM/FORESTRY	08/31/17	259420	15.70-
00001 CINTAS CORPORATION #J66 J66552820	00172882 16007861 MOP/MAT 8/18 CEM/FORESTRY	08/31/17	259420	15.70-
00001 CINTAS CORPORATION #J66 J66553597	00172882 16007862 MOP/MAT 8/25 CEM/FORESTRY	08/31/17	259420	15.70-

CINTAS CORPORATION #J66

Sum								989.34-
00001	CITY OF HATTIESBURG FUND TRF 1ST 9/17	02017783	16007919	TRF 1ST 9/17/17	PAYROLL	08/30/17	112124	923,502.07-

CITY OF HATTIESBURG FUND

Sum								923,502.07-
00001	CLARKE	5077102	00170956	16007768	MOSQUITO CONTROL CHEMICALS	08/31/17	259424	3,480.00-

CLARKE

Sum								3,480.00-
00001	CMC RESCUE INC	418613	00172669	16007821	RESCUE EQUIP P/F ACADEMY	08/31/17	259425	2,012.00-

CMC RESCUE INC

Sum								2,012.00-
00001	COMCAST CABLEVISION OF H	095777455960	00172721	16007703	CABLE 8/17 CITY HALL	08/31/17	259428	186.94-
00001	COMCAST CABLEVISION OF H	095777456150	00172953	16007935	CABLE SERV SANIT DEPT	08/31/17	259429	72.37-

COMCAST CABLEVISION OF H

Sum								259.31-
00001	COMMERCIAL STATIONERY CO	395902-0	00167037	16007654	JANIT SUPP P/F ACADEMY	08/31/17	259430	246.01-
00001	COMMERCIAL STATIONERY CO	395991-0	00167037	16007655	JANIT SUPP P/F ACADEMY	08/31/17	259430	225.33-
00001	COMMERCIAL STATIONERY CO	399910-0	00169938	16007656	OFFICE/JANIT SUPP P/F ACADEMY	08/31/17	259430	231.84-
00001	COMMERCIAL STATIONERY CO	399983-0	00169938	16007657	COPY PAPER P/F ACADEMY	08/31/17	259430	90.95-
00001	COMMERCIAL STATIONERY CO	401008-0	00170722	16007658	OFFICE SUPP P/F ACADEMY	08/31/17	259430	194.70-
00001	COMMERCIAL STATIONERY CO	402814-0	00172092	16007659	CHAIRS/LOBBY SIGN HOLDER	08/31/17	259430	1,387.54-
00001	COMMERCIAL STATIONERY CO	402989-0	00172145	16007660	CHAIRS FOR ASSEMBLY ROOM	08/31/17	259430	1,259.55-
00001	COMMERCIAL STATIONERY CO	395902-1	00167037	16007676	JANIT SUPP P/F ACADEMY	08/31/17	259430	158.34-
00001	COMMERCIAL STATIONERY CO C	395902-1	00167037	16007677	CREDIT	08/31/17	259430	158.34
00001	COMMERCIAL STATIONERY CO	396560-0	00167037	16007678	JANIT SUPP P/F ACADEMY	08/31/17	259430	149.34-
00001	COMMERCIAL STATIONERY CO C	396560-0	00167037	16007679	CREDIT	08/31/17	259430	149.34

COMMERCIAL STATIONERY CO

Sum								3,635.92-
00001	COURT PROGRAMS INC	INV #35	00172791	16007780	ANKLE MONITORS MUN COURT	08/31/17	259431	9,125.00-

COURT PROGRAMS INC

Sum								9,125.00-
00001	COVERT TRACK GROUP, INC	2504	00172842	16007814	SUBSCRIPT FOR MAPPING PROJECT	08/31/17	259432	1,200.00-

COVERT TRACK GROUP, INC

Sum								1,200.00-
00001	D P S CRIME LAB	90062509	00172708	16007705	ANALYTICAL FEES POLICE	08/31/17	259436	120.00-
00001	D P S CRIME LAB	90061893	00172840	16007817	ANALYTICAL FEES	08/31/17	259436	480.00-

D P S CRIME LAB

Sum								600.00-
00001	DOUBLE TREE HOTEL OF BIR	85591003	GUT	00172923	16007901	GUTHRIE APA CONF 10/4-6	08/31/17	259444

DOUBLE TREE HOTEL OF BIR

Sum								280.00-
00001	EASTERLING, BARBARA (REF MUNICIPAL CO	02017684	16007936	MUNICIPAL COURT REFUND		08/31/17	259447	56.25-

EASTERLING, BARBARA (REF								
Sum								56.25-
00001	ECONOMY SUPPLY CO	279202	00172666	16007664	BAGS OF ASPHALT PUB WORKS	08/31/17	259448	99.50-
00001	ECONOMY SUPPLY CO	279072	00172262	16007761	BAGS OF CEMENT	08/31/17	259448	418.25-
00001	ECONOMY SUPPLY CO	278972	00172532	16007766	ROOF CEMENT LIFE CENTER	08/31/17	259448	134.30-

ECONOMY SUPPLY CO								
Sum								652.05-
00001	EMERGENCY EQUIPMENT PROF	428994	00171545	16007757	R.I.T. EQUIPMENT BAGS	08/31/17	259451	399.26-
00001	EMERGENCY EQUIPMENT PROF	428804	00172314	16007823	REPR PTS U#13932 FIRE DEPT	08/31/17	259451	292.33-
00001	EMERGENCY EQUIPMENT PROF	428894	00172550	16007824	REPR PTS U#13932 FIRE DEPT	08/31/17	259451	157.59-

EMERGENCY EQUIPMENT PROF								
Sum								849.18-
00001	EMERGENCY MANAGEMENT DIS	CONTRIB FYE	00172674	16007663	CONTRIB FYE 9/30/17	08/31/17	259452	25,250.00-

EMERGENCY MANAGEMENT DIS								
Sum								25,250.00-
00001	EMPIRE TRUCK SALES (H'BU	CE006126116:	00172489	16007673	REPR PTS U#19887 AIRPORT	08/31/17	259453	76.33-
00001	EMPIRE TRUCK SALES (H'BU	CE006125989:	00172489	16007674	REPR PTS U#19887 AIRPORT	08/31/17	259453	152.85-
00001	EMPIRE TRUCK SALES (H'BU	CE006124953:	00171967	16007739	REPR PTS U#20067/15893	08/31/17	259453	241.90-
00001	EMPIRE TRUCK SALES (H'BU	CE006126096:	00172657	16007740	REPR PTS U#15892	08/31/17	259453	604.35-
00001	EMPIRE TRUCK SALES (H'BU	CE006126298:	00172729	16007837	REPR PTS U#15892 SANIT	08/31/17	259453	83.60-

EMPIRE TRUCK SALES (H'BU								
Sum								1,159.03-
00001	EQUIFAX INFORMATION SERV	4418061	00172706	16007704	ONLINE INVESTIGATION POLICE	08/31/17	259454	53.10-

EQUIFAX INFORMATION SERV								
Sum								53.10-
00001	EYE, JOHN (REFUNDS)	REFUND-RECEI	02017766	16007732	REFUND-RECEIPT #63871	08/31/17	259458	175.00-

EYE, JOHN (REFUNDS)								
Sum								175.00-
00001	F T I GROUP	137693	00172762	16007920	CLAIMS FUND CHECKS ACCTG DEPT	08/31/17	259459	494.86-

F T I GROUP								
Sum								494.86-
00001	FASTENAL COMPANY	MSHAT201176	00171818	16007790	MARKING PAINT TRAFFIC DEPT	08/31/17	259460	88.92-
00001	FASTENAL COMPANY	MSHAT202047	00172695	16007828	NUTS/BOLTS TRAFFIC SIGNS	08/31/17	259460	693.00-
00001	FASTENAL COMPANY	MSHAT201672	00172341	16007834	SAFETY GEAR CREW WORKERS	08/31/17	259460	224.85-
00001	FASTENAL COMPANY	MSHAT201732	00172341	16007835	SAFETY GEAR CREW WORKERS	08/31/17	259460	1,069.26-
00001	FASTENAL COMPANY	MSHAT201999	00172341	16007836	SAFETY GEAR CREW WORKERS	08/31/17	259460	317.04-

FASTENAL COMPANY								
Sum								2,393.07-
00001	FEDERAL EXPRESS	5-870-08313	00172892	16007808	SERV 7/11/17	08/31/17	259461	13.40-

FEDERAL EXPRESS								
Sum								13.40-
00001	FERGUSON ENTERPRISES INC	7052205	00172461	16007767	DRILL PART/PLUMBING CONSTR	08/31/17	259462	54.91-

00001	FERGUSON ENTERPRISES INC	6962975	00171795	16007775	WTR FOUNTAINS MUN COURT BLDG	08/31/17	259462	1,217.24-

FERGUSON ENTERPRISES INC								
Sum								
00001	FERRARA FIRE APPARATUS I	130913	00172775	16007909	HOSE ADAPTORS P/F ACADEMY	08/31/17	259463	1,272.15-

FERRARA FIRE APPARATUS I								
Sum								
00001	FIRE STORE(WITMER ASSOC	1791975	00171921	16007907	RADIO HARNESESSES	08/31/17	259464	178.50-
00001	FIRE STORE(WITMER ASSOC	1791975.001	00171921	16007908	SHOES/SHIRTS STEPHENS FIRE	08/31/17	259464	164.97-

FIRE STORE(WITMER ASSOC								
Sum								
00001	FUELMAN OF MS	BG127044 NP5	00172725	16007709	FUEL CHGS 8/12/17 MOONEY FIRE	08/31/17	259466	508.94-

FUELMAN OF MS								
Sum								
00001	FV RECYCLING	2017-53902	00172707	16007712	RECYCLE FEES 8/17 SANIT	08/31/17	259467	127.44-
00001	FV RECYCLING	2017-53905	00172707	16007713	RECYCLE FEES 8/17 SANIT	08/31/17	259467	105.75-
00001	FV RECYCLING	2017-53812	00172761	16007728	RECYCLE FEES 8/17 SANIT	08/31/17	259467	19.25-
00001	FV RECYCLING	2017-53941	00172838	16007842	RECYCLE FEES 8/17 SANIT	08/31/17	259467	44.75-
00001	FV RECYCLING	2017-53937	00172838	16007843	RECYCLE FEES 8/17 SANIT	08/31/17	259467	41.50-
00001	FV RECYCLING	2017-53937	00172838	16007843	RECYCLE FEES 8/17 SANIT	08/31/17	259467	52.00-
00001	FV RECYCLING	2017-53984	00172931	16007915	RECYCLE FEES 8/17 SANIT	08/31/17	259467	21.00-
00001	FV RECYCLING	2017-53985	00172931	16007916	RECYCLE FEES 8/17 SANIT	08/31/17	259467	15.75-
00001	FV RECYCLING	2017-53980	00172972	16007934	RECYCLE FEES 8/17 SANIT	08/31/17	259467	97.75-

FV RECYCLING								
Sum								
00001	GALLS	(WAS MCCAIN UNIF 007938959	00169160	16007748	L/S UNIFORM SHIRTS FIRE DEPT	08/31/17	259469	397.75-
00001	GALLS	(WAS MCCAIN UNIF 007021874	00166053	16007881	UNIFORMS FIRE DEPT	08/31/17	259469	63.10-
00001	GALLS	(WAS MCCAIN UNIF 007396052	00166053	16007882	UNIFORMS FIRE DEPT	08/31/17	259469	177.20-
00001	GALLS	(WAS MCCAIN UNIF 007429973	00166053	16007883	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438208	00166053	16007884	UNIFORMS FIRE DEPT	08/31/17	259469	8.00-
00001	GALLS	(WAS MCCAIN UNIF 007438209	00166053	16007885	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438210	00166053	16007886	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438211	00166053	16007887	UNIFORMS FIRE DEPT	08/31/17	259469	56.00-
00001	GALLS	(WAS MCCAIN UNIF 007438212	00166053	16007888	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438213	00166053	16007889	UNIFORMS FIRE DEPT	08/31/17	259469	100.00-
00001	GALLS	(WAS MCCAIN UNIF 007438214	00166053	16007890	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438215	00166053	16007891	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438216	00166053	16007892	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438217	00166053	16007893	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438218	00166053	16007894	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438219	00166053	16007895	UNIFORMS FIRE DEPT	08/31/17	259469	50.00-
00001	GALLS	(WAS MCCAIN UNIF 007438220	00166053	16007896	UNIFORMS FIRE DEPT	08/31/17	259469	56.00-
00001	GALLS	(WAS MCCAIN UNIF 007805708	00166053	16007897	UNIFORMS FIRE DEPT	08/31/17	259469	56.00-
00001	GALLS	(WAS MCCAIN UNIF 007892762	00166053	16007898	UNIFORMS FIRE DEPT	08/31/17	259469	406.00-

GALLS (WAS MCCAIN UNIF								
Sum								
00001	GARNER LUMLEY ELECTRIC S	538646	00171252	16007877	LED RUNWAY LIGHTS AIRPORT	08/31/17	259470	1,473.05-

12,652.41-								

00001 HATTIESBURG HYDRAULICS I 70628	00172686 16007688 REPRS U#15776	08/31/17	259484	265.13-
00001 HATTIESBURG HYDRAULICS I 70738	00172845 16007878 CYLINDER REPR U#15856 CEM	08/31/17	259484	246.42-

HATTIESBURG HYDRAULICS I				
Sum				
00001 HATTIESBURG/PINBELT PAGE 2016 PROGRAM	00172830 16007801 2016 PROGRAM AD	08/31/17	259485	511.55-

HATTIESBURG/PINBELT PAGE				
Sum				
00001 HICKS LAW FIRM, LLC	8268 00172828 16007810 SRVS PLASS INC VS CITY HBRG	08/31/17	259487	100.00-
00001 HICKS LAW FIRM, LLC	8267 00172829 16007811 SRV RICKY WARD VS HBRG POLICE	08/31/17	259487	3,540.00-

HICKS LAW FIRM, LLC				
Sum				
00001 HICKS, INES F (#75935)	TRAV ADVANCE 00172698 16007647 TRAV ADV CRT CLK CONF TUNICA	08/31/17	259488	4,948.20-

HICKS, INES F (#75935)				
Sum				
00001 HILL & BROOKS COFFEE & T 700254	00172841 16007798 COFFEE SERV M/ADM	08/31/17	259489	241.00-

HILL & BROOKS COFFEE & T				
Sum				
00001 HOME DEPOT	1972373 00172415 16007721 WET/DRY VAC	08/31/17	259490	67.86-
00001 HOME DEPOT	972218 00171997 16007725 BLINDS #2 FIRE STA TORNADO'17	08/31/17	259490	99.00-
00001 HOME DEPOT	2972349 00172431 16007727 42"DRUM FAN SANIT DEPT	08/31/17	259490	93.94-

HOME DEPOT				
Sum				
00001 HUGHES SUPPLY	S150660512.0 00172097 16007742 HAND TOOLS CONSTR A/C VAN	08/31/17	259491	329.00-
00001 HUGHES SUPPLY	S150845911.0 00172650 16007870 A/C REPR SUPP HUMAN RES DEPT	08/31/17	259491	521.94-
00001 HUGHES SUPPLY	S150824310.0 00172610 16007876 A/C REPR PTS SANIT DEPT	08/31/17	259491	306.82-

HUGHES SUPPLY				
Sum				
00001 INDOFF INC	2995017 00172391 16007735 JANIT SUPP FIRE DEPT	08/31/17	259492	1,085.80-
00001 INDOFF INC	2997676 00172565 16007874 LOCKING CASH BOX PUBLIC WORKS	08/31/17	259492	918.00-

INDOFF INC				
Sum				
00001 INMAR MARINE GROUP	12004 00172556 16007734 SEARCH/RESCUE INFLATABLE BOAT	08/31/17	259493	72.99-

INMAR MARINE GROUP				
Sum				
00001 INMATE SERVICES CORPORAT 22470	00172259 16007755 TRANSPORT PRISONER MIDLND,TX	08/31/17	259494	3,205.90-

INMATE SERVICES CORPORAT				
Sum				
00001 INTERFACE SECURITY SYSTE 18828329	00172733 16007729 SECURITY 9/17 SOUTH HILL CEM	08/31/17	259495	735.00-
00001 INTERFACE SECURITY SYSTE 18820169	00172733 16007730 SECURITY 9/17 HIGHLAND CEM	08/31/17	259495	29.95-

INTERFACE SECURITY SYSTE				
Sum				
62.97-				

00001 IRBY, STUART C CO	S010238772.0	00171090	16007795	ELEC SUPP PARKING GARAGE REPR	08/31/17	259496	152.30-

IRBY, STUART C CO							
Sum							152.30-
00001 JACKSON COMMUNICATIONS	S18563 FRT	00172584	16007825	FREIGHT CHARGE	08/31/17	259498	18.00-

JACKSON COMMUNICATIONS							
Sum							18.00-
00001 LAMAR CTY SHERIFF	JAIL 7/17	00172713	16007710	JAIL 7/17 EXPENSE	08/31/17	259514	100.00-

LAMAR CTY SHERIFF							
Sum							100.00-
00001 LARRY'S WRECKER SERVICE	3392	00172715	16007708	TOWING U#17573 POLICE	08/31/17	259517	55.00-
00001 LARRY'S WRECKER SERVICE	3548	00172971	16007929	TOWING U#14714	08/31/17	259517	55.00-

LARRY'S WRECKER SERVICE							
Sum							110.00-
00001 LINEBARGER GOGGAN BLAIR	8/15/2017	02017770	16007749	POLICE FINES COLL.FEE	08/31/17	259519	1,661.16-

LINEBARGER GOGGAN BLAIR							
Sum							1,661.16-
00001 LOWE'S OF HATTIESBURG IN	936462	00170292	16007846	BLINDS M TRANS TEMP TORNADO'17	08/31/17	259521	20.88-
00001 LOWE'S OF HATTIESBURG IN	967050	00172975	16007930	LANDSCAPE TIMBERS 40TH AVE	08/31/17	259521	34.32-

LOWE'S OF HATTIESBURG IN							
Sum							55.20-
00001 M B I	PO#170098 5/	00170098	16007926	ADDL CAMERA PO#169564 TORNADO	08/31/17	259522	459.70-

M B I							
Sum							459.70-
00001 MADDOX, GINGER	TRAV ADVANCE	00172909	16007903	TRAV ADV APA CONF BIRMINGHAM	08/31/17	259523	115.00-

MADDOX, GINGER							
Sum							115.00-
00001 MALLOY, KAREN	TRAV ADVANCE	00172699	16007648	TRAV ADV CRT CLK CONF TUNICA	08/31/17	259526	395.00-

MALLOY, KAREN							
Sum							395.00-
00001 METRIX SOLUTIONS	M27919	00172476	16007784	VMWARE SOFTWARE INFO TECH	08/31/17	259531	1,877.85-

METRIX SOLUTIONS							
Sum							1,877.85-
00001 MIDSOUTH SOLUTIONS	109167	00171620	16007736	DUTY BOOTS FIRE RECRUITS	08/31/17	259533	1,016.13-

MIDSOUTH SOLUTIONS							
Sum							1,016.13-
00001 MOONEY, STEPHEN	TRAVEL REIMB	00172908	16007912	EXPNS FIRE INVESTIGATION	08/31/17	259535	179.42-

MOONEY, STEPHEN							
Sum							179.42-
00001 MOORE, DAVID	TRAV ADVANCE	00172871	16007806	TRAV ADV MPO MEET JACKSON	08/31/17	259536	139.09-

[illegible]

00001 PARKER, CHARLES A (USE V TRAV ADVANCE 00172719 16007714 TRAV ADV MUFC CONF JACKSON	08/31/17	259552	186.00-

PARKER, CHARLES A (USE V			186.00-
Sum			17.03-
00001 PEARL RIVER VALLEY EPA (8/17 GENERAL 00201722 16007865 MNTHLY 8/17 PUBLIC SERVICES	08/31/17	259553	17.03-

PEARL RIVER VALLEY EPA (			17.03-
Sum			1,508.70-
00001 PINE BELT MENTAL HEALTHC JAIL DIVERSI 00172804 16007776 EVALUATOR/SERVS 4/17	08/31/17	259556	1,370.33-
00001 PINE BELT MENTAL HEALTHC JAIL DIVERSI 00172806 16007777 EVALUATOR/SERVS 5/17	08/31/17	259556	1,641.70-
00001 PINE BELT MENTAL HEALTHC JAIL DIVERSI 00172807 16007778 EVALUATOR/SERVS 6/17	08/31/17	259556	1,766.81-
00001 PINE BELT MENTAL HEALTHC JAIL DIVERSI 00172808 16007779 EVALUATOR/SERVS 7/17	08/31/17	259556	

PINE BELT MENTAL HEALTHC			6,287.54-
Sum			6,668.91-
00001 PINE BELT OIL COMPANY IN 10489581 00172710 16007797 DIESEL FOR FUEL STATION	08/31/17	259557	

PINE BELT OIL COMPANY IN			6,668.91-
Sum			59,671.80-
00001 PINE BELT REGIONAL SOLID 100006 7/31/ 00172969 16007931 REFUSE DISPOSAL 6/17 & 7/17	08/31/17	259558	

PINE BELT REGIONAL SOLID			59,671.80-
Sum			280.00-
00001 PINE BELT TROPHY PO#172660 8/ 00172660 16007871 GRAD PLAQUES FIRE RECRUIT CLS	08/31/17	259559	

PINE BELT TROPHY			280.00-
Sum			1,185.00-
00001 PROFESSIONAL DISPATCH MA 2017-8-10-3 00172527 16007653 REG WALKER/WHITSETT/RANDLE	08/31/17	259565	

PROFESSIONAL DISPATCH MA			1,185.00-
Sum			300.00-
00001 PUBLIC SAFETY ACADEMICS 588 ALBRITTO 00172863 16007820 REG ALBRITTON BEHIND/BADGE	08/31/17	259566	

PUBLIC SAFETY ACADEMICS			300.00-
Sum			112.50-
00001 RECYCLING PROMOTIONS.COM 32412 00171078 16007838 EARTH DAY STICKERS NNOAC/SCHL	08/31/17	259568	222.72-
00001 RECYCLING PROMOTIONS.COM 32436 00171078 16007839 CRAYONS NNOAC/SCHOOL VISITS	08/31/17	259568	1,271.50-
00001 RECYCLING PROMOTIONS.COM 32464 00171078 16007840 SUPP NNOAC/SCHOOL VISITS	08/31/17	259568	868.04-
00001 RECYCLING PROMOTIONS.COM 32485 00171078 16007841 SUPP NNOAC/SCHOOL VISITS	08/31/17	259568	

RECYCLING PROMOTIONS.COM			2,474.76-
Sum			110.00-
00001 RICOH CORP 23306807 00172781 16007789 COPIER 9/17 LAND CODE	08/31/17	259569	

RICOH CORP			110.00-
Sum			298.00-
00001 RJ YOUNG COMPANY INV2012021 00172760 16007718 COPIER 7/14-8/13/17 CITY CLK	08/31/17	259570	123.72-
00001 RJ YOUNG COMPANY INV1982084 00170473 16007809 TONER SUPP MPO DEPT	08/31/17	259570	492.00-
00001 RJ YOUNG COMPANY INV1980160 00172847 16007819 COPIER 6/28-7/27 POLICE	08/31/17	259570	

RJ YOUNG COMPANY			913.72-
Sum			

00001 RJM MCQUEEN CONTRACTING	1289	00172843 16007875	SIDEWALK HUTCHINSON/VICKERS	08/31/17	259571	3,245.18-

RJM MCQUEEN CONTRACTING						
Sum						3,245.18-
00001 ROBINSON, ZACHARY	TRAV ADVANCE	00172951 16007910	TRAV ADV PATROL/DRUG CLASSES	08/31/17	259573	207.00-

ROBINSON, ZACHARY						
Sum						207.00-
00001 ROTO-ROOTER	HAC823007	00172864 16007816	CLEAR DRAIN DISPATCH OFFICE	08/31/17	259574	198.50-

ROTO-ROOTER						
Sum						198.50-
00001 RUSSELL, CALVIN	TRAV ADVANCE	00172872 16007807	TRAV ADV MPO MEET JACKSON	08/31/17	259576	139.09-

RUSSELL, CALVIN						
Sum						139.09-
00001 SACKS OUTDOOR SUPPLY	PO#172343 8/	00172343 16007815	CLOTH ALLOW LT PROULX POLICE	08/31/17	259577	199.88-
00001 SACKS OUTDOOR SUPPLY	PO#172585 8/	00172585 16007904	CLOTH ALLOW JEFF BYRD POLICE	08/31/17	259577	350.00-
00001 SACKS OUTDOOR SUPPLY	PO#172801 8/	00172801 16007905	CLOTH ALLOW RUPLA POLICE	08/31/17	259577	349.95-

SACKS OUTDOOR SUPPLY						
Sum						899.83-
00001 SAFARILAND GROUP	REG ROBINSON	00172803 16007788	REG ROBINSON CROWD MGMT CLASS	08/31/17	259578	895.00-

SAFARILAND GROUP						
Sum						895.00-
00001 SANSOM EQUIPMENT CO	51953	00172552 16007665	REPR PTS U#18907	08/31/17	259579	1,629.27-
00001 SANSOM EQUIPMENT CO	51885	00171990 16007672	REPRS VARI SANIT UNITS	08/31/17	259579	7,735.84-
00001 SANSOM EQUIPMENT CO	51950	00171688 16007675	REPRS U#18907 AIRPORT	08/31/17	259579	12,475.91-

SANSOM EQUIPMENT CO						
Sum						21,841.02-
00001 SHERWIN-WILLIAMS COMPANY	4977-4	00171498 16007760	PAINT MACHINE SUPP	08/31/17	259580	779.42-
00001 SHERWIN-WILLIAMS COMPANY	8816-8	00171498 16007772	PAINT MACHINE SUPP TRAFFIC	08/31/17	259580	744.33-
00001 SHERWIN-WILLIAMS COMPANY	4976-6	00171498 16007773	CREDIT	08/31/17	259580	744.33

SHERWIN-WILLIAMS COMPANY						
Sum						779.42-
00001 SMITH, JARROD	TRAV ADVANCE	00172936 16007911	TRAV ADV PATROL/DRUG CLASSES	08/31/17	259582	207.00-

SMITH, JARROD						
Sum						207.00-
00001 SOLAR SUPPLY INC	3494716	00172639 16007869	A/C REPR SUPP 3RD FLR C HALL	08/31/17	259584	115.25-

SOLAR SUPPLY INC						
Sum						115.25-
00001 SOUTHERN FINANCIAL SYSTE	CMCHAT 8/01/	02017767 16007750	POLICE FINES COLL.FEE	08/31/17	259585	138.40-
00001 SOUTHERN FINANCIAL SYSTE	CMCHAT2 8/3/	02017768 16007751	POLICE FINES COLL.FEE	08/31/17	259585	674.93-
00001 SOUTHERN FINANCIAL SYSTE	CMCHAT3 8/3/	02017769 16007752	POLICE FINES COLL.FEE	08/31/17	259585	677.62-

SOUTHERN FINANCIAL SYSTE						
Sum						1,490.95-

00001 SOUTHERN PINE ELECTRIC P 8/17 GENERAL 00201722 16007866 MNTHLY 8/17 PUBLIC SERVICES	08/31/17	259588	58.37-

SOUTHERN PINE ELECTRIC P			
Sum			58.37-
00001 SOUTHERN PIPE & SUPPLY C 1022731-01 00172536 16007762 CURB INLETS PUB WORKS STOCK	08/31/17	259589	1,557.00-
00001 SOUTHERN PIPE & SUPPLY C 1022731-00 00172536 16007763 CURB INLETS PUB WORKS STOCK	08/31/17	259589	3,280.00-
00001 SOUTHERN PIPE & SUPPLY C 1074084-00 00172642 16007922 PLUMB SUPP A/C DRAINS 3RD FLR	08/31/17	259589	45.49-

SOUTHERN PIPE & SUPPLY C			
Sum			4,882.49-
00001 STANDARD OFFICE SUPPLY C 0069259-001 00169470 16007652 OFFICE SUPP LIFE CENTER	08/31/17	259593	73.68-
00001 STANDARD OFFICE SUPPLY C 0070380-001 00170968 16007684 OFFICE FURNITURE TORNADO 2017	08/31/17	259593	3,369.84-
00001 STANDARD OFFICE SUPPLY C 0067322-001 00167233 16007700 OFFICE SUPP RISK MGMT	08/31/17	259593	16.98-
00001 STANDARD OFFICE SUPPLY C 0071838-001 00172678 16007747 OFFICE SUPP PARKING DIVISION	08/31/17	259593	215.77-
00001 STANDARD OFFICE SUPPLY C 0071863-001 00172714 16007781 OFFICE SUPP CITY CLERK	08/31/17	259593	42.99-
00001 STANDARD OFFICE SUPPLY C 0071300-001 00172091 16007782 OFFICE SUPP PURCHASING DEPT	08/31/17	259593	72.96-

STANDARD OFFICE SUPPLY C			
Sum			3,792.22-
00001 STRIBLING EQUIPMENT CO L CS006093524: 00172759 16007833 REPR PTS U#20152 DRNGE	08/31/17	259596	124.36-

STRIBLING EQUIPMENT CO L			
Sum			124.36-
00001 THYSSENKRUPP ELEVATOR CO 6000262227 00168429 16007716 INSTALL PIT LADDER PINE ST	08/31/17	259602	1,723.00-

THYSSENKRUPP ELEVATOR CO			
Sum			1,723.00-
00001 TYLER TECHNOLOGIES INC 025-193621 00170809 16007921 ENERGОВ CONFIGURATION/DATA	08/31/17	259610	1,000.00-

TYLER TECHNOLOGIES INC			
Sum			1,000.00-
00001 UNDERWOOD OUTDOOR POWER, 48649 00172744 16007737 SMOKE EJECTOR STARTER	08/31/17	259611	74.69-

UNDERWOOD OUTDOOR POWER,			
Sum			74.69-
00001 UNITED PARCEL SERVICE IN 00008E1Y1531 00172712 16007706 SHIP FEE 6/24/17 POLICE	08/31/17	259612	78.57-
00001 UNITED PARCEL SERVICE IN 0008E1Y15327 00172712 16007707 LATE PYMT FEE	08/31/17	259612	1.28-
00001 UNITED PARCEL SERVICE IN 00008E1Y1533 00172877 16007818 SHIP FEE 8/9/17 POLICE	08/31/17	259612	18.20-

UNITED PARCEL SERVICE IN			
Sum			98.05-
00001 UNIVERSITY TIRE & SERVIC 513497 00172757 16007832 TIRES U#13062	08/31/17	259614	571.84-

UNIVERSITY TIRE & SERVIC			
Sum			571.84-
00001 VERIZON WIRELESS 9790246819 00172874 16007805 HPD VERIZON WIRELESS	08/31/17	259617	2,400.80-

VERIZON WIRELESS			
Sum			2,400.80-
00001 VULCAN MATERIALS CO 50293151 00167510 16007726 LIMESTONE PUBLIC WORKS	08/31/17	259618	3,400.00-

VULCAN MATERIALS CO			

Sum									3,400.00-
00001 VULCAN SIGNS	311751	00171684	16007686	SCHOOL ZONE SIGNS TRAFF DEPT	08/31/17	259619		318.00-	
00001 VULCAN SIGNS	311750	00171730	16007687	SCHOOL ZONE SIGNS TRAFF DEPT	08/31/17	259619		38.16-	
00001 VULCAN SIGNS	312027	00171733	16007829	HARDWARE/SIGNS TRAFFIC MAINT	08/31/17	259619		1,817.46-	
VULCAN SIGNS								-----	
Sum								2,173.62-	
00001 WAL-MART STORES INC	008666	00172292	16007717	REFRSHMNTS BHC GRAD 8/3/17	08/31/17	259620		93.02-	
00001 WAL-MART STORES INC	001209	00172196	16007719	JANIT/OFFICE SUPP PURCHASING	08/31/17	259620		82.67-	
00001 WAL-MART STORES INC	004896 & 005	00171891	16007720	NNO SUPP KICKOFF/LUNCH LEARN	08/31/17	259620		491.82-	
00001 WAL-MART STORES INC	001756	00171866	16007722	FOOD/DRINKS NNO 2017	08/31/17	259620		302.44-	
00001 WAL-MART STORES INC	004705	00172287	16007724	MINOR EQUIP/JANIT SUPP ACDMY	08/31/17	259620		65.34-	
00001 WAL-MART STORES INC	008706	00171859	16007731	TV FOR EMER MONITORING	08/31/17	259620		211.86-	
00001 WAL-MART STORES INC	006246	00171822	16007785	JANIT SUPP CITY HALL	08/31/17	259620		41.57-	
00001 WAL-MART STORES INC	006247	00171822	16007786	JANIT SUPP PARKING DIV	08/31/17	259620		32.85-	
WAL-MART STORES INC								-----	
Sum								1,321.57-	
00001 WARREN PAVING INC	462	00171998	16007667	STRIPE/SHOULDERS W L RUNNELS	08/31/17	259624		31,672.80-	
00001 WARREN PAVING INC	437	00171998	16007668	STRIPE/SHOULER W L RUNNELS	08/31/17	259624		26,886.00-	
00001 WARREN PAVING INC	460	00172253	16007689	PAVING 37TH AVE	08/31/17	259624		27,357.43-	
WARREN PAVING INC								-----	
Sum								85,916.23-	
00001 WASTE MANAGEMENT OF SOUT	0010169-2526	00172970	16007932	REFUSE DISPOSAL SANIT	08/31/17	259626		2,515.92-	
00001 WASTE MANAGEMENT OF SOUT	0010139-2526	00172970	16007933	REFUSE DISPOSAL SANIT	08/31/17	259626		2,644.62-	
WASTE MANAGEMENT OF SOUT								-----	
Sum								5,160.54-	
00001 WATCH GUARD VIDEO	SRINV0016230	00169155	16007754	REPRS U#18314 POLICE	08/31/17	259627		152.00-	
00001 WATCH GUARD VIDEO	SRINV0016154	00168676	16007756	REPR MAINBOARD U#19700 POLICE	08/31/17	259627		324.00-	
WATCH GUARD VIDEO								-----	
Sum								476.00-	
00001 WATERS INTERNATIONAL TRU	08P838491	00172450	16007741	REPR PTS U#16008 SHOP STOCK	08/31/17	259628		468.36-	
00001 WATERS INTERNATIONAL TRU	08P838269	00172312	16007743	REPR PTS U#14405/16083 SANIT	08/31/17	259628		428.67-	
00001 WATERS INTERNATIONAL TRU	08P839242	00172673	16007744	REPR PTS U#14406 SANIT	08/31/17	259628		344.82-	
00001 WATERS INTERNATIONAL TRU	08P839635	00172728	16007746	IMPACT WRENCH AIRPORT SHOP	08/31/17	259628		166.97-	
00001 WATERS INTERNATIONAL TRU	08P835670	00171071	16007873	REPR PTS U#18100/STOCK	08/31/17	259628		366.20-	
00001 WATERS INTERNATIONAL TRU	08813769	00171643	16007917	REPRS U#18602 BUCKET TRUCK	08/31/17	259628		639.83-	
00001 WATERS INTERNATIONAL TRU	08813689	00171767	16007918	ADDL REPRS U#18602	08/31/17	259628		586.50-	
WATERS INTERNATIONAL TRU								-----	
Sum								3,001.35-	
00001 WATTS BROTHERS TRACTOR C	01-28573	00172667	16007661	REPR PTS U#19298 TRACTOR	08/31/17	259629		92.92-	
WATTS BROTHERS TRACTOR C								-----	
Sum								92.92-	
00001 WHEELER'S JANITORIAL SUP	0400674	00170333	16007830	JANIT SUPP PUBLIC WORKS	08/31/17	259631		403.28-	
WHEELER'S JANITORIAL SUP								-----	
Sum								403.28-	

00001 WILLMUT GAS & OIL COMPAN 8/17 GENERAL 00201722 16007867 MNTHLY GAS-GENERAL	08/31/17	259633	107.07-

WILLMUT GAS & OIL COMPAN			
Sum			107.07-
00001 9-MCCAIN UNIFORMS 355964-1 00166317 16007872 BATTALION CHIEF UNIFORMS	08/31/17	259636	295.10-

9-MCCAIN UNIFORMS			
Sum			295.10-

Sum			1,428,426.60-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

Date - 08/30/17

PERIOD ENDING AUGUST 31, 2017

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
PARKS & RECREATION FUND							
00002 A & R FARM AND GARDEN	316305	00172693	16001582	CHAIN/HOOKS CITY WIDE USE	08/31/17	259374	55.00-

A & R FARM AND GARDEN							
Sum							55.00-
00002 AGRI-AFC LLC	5384673	00172849	16001613	CHEMICALS ALL SOCCER FIELDS	08/31/17	259379	583.00-
00002 AGRI-AFC LLC	5384721	00172861	16001614	WEED KILLER GRNDS MAINT	08/31/17	259379	76.00-

AGRI-AFC LLC							
Sum							659.00-
00002 ANDERSON RETAIL INC	119540	00172727	16001629	FLOORING S ANTONIO RESTROOM	08/31/17	259384	267.14-

ANDERSON RETAIL INC							
Sum							267.14-
00002 ANOINTED HANDS SERVICES, 5109		00172860	16001594	JANIT SERV 8/17 GRNDS MAINT	08/31/17	259385	310.00-

ANOINTED HANDS SERVICES,							
Sum							310.00-
00002 AT&T MOBILITY	287273578351	00172895	16001595	WIRELESS BILLING 7/17 PKS/REC	08/31/17	259389	250.80-

AT&T MOBILITY							
Sum							250.80-
00002 AUTO ARMATURE SERVICE IN 09385		00172857	16001617	STARTER U#8446 TRACTOR	08/31/17	259390	269.95-

AUTO ARMATURE SERVICE IN							
Sum							269.95-
00002 BLUE DOLPHIN POOL	29939	00168537	16001589	POOL SERV 5/15-7/31/17	08/31/17	259401	4,400.00-

BLUE DOLPHIN POOL							
Sum							4,400.00-
00002 BRACKMAN MOWER WAREHOUSE 33293		00172611	16001572	REPR PTS/REPRS U#17998	08/31/17	259405	232.12-
00002 BRACKMAN MOWER WAREHOUSE 33588		00172865	16001615	LUBRICANTS	08/31/17	259405	225.60-
00002 BRACKMAN MOWER WAREHOUSE 33591		00172785	16001618	REPRS U#18866	08/31/17	259405	129.52-
00002 BRACKMAN MOWER WAREHOUSE 33590		00172786	16001619	REPRS U#17085/GENERATOR	08/31/17	259405	241.75-

BRACKMAN MOWER WAREHOUSE							
Sum							828.99-
00002 BRADDOCK, ARETHA	SPORTS SERVS 02017779	16001607	SPORTS SUPPORT SERVICES	08/31/17	259406		24.00-

BRADDOCK, ARETHA							
Sum							24.00-
00002 CARQUEST AUTO PARTS STOR 14758-94839		00172587	16001581	REPR PTS U#7382 TRUCK	08/31/17	259413	136.56-

CARQUEST AUTO PARTS STOR							
Sum							136.56-
00002 CAWTHON, ANDREW C	OFFICIAL 8/1 02017780	16001596	OFFICIAL-ADULT SOFTBALL	08/31/17	259414		80.00-

CAWTHON, ANDREW C								
Sum								80.00-
00002	CITY OF HATTIESBURG FUND TRF 1ST 9/17	02017783	16001627	TRF 1ST 9/17/17 PAYROLL	08/30/17	311539	42,235.25-	-----
CITY OF HATTIESBURG FUND								
Sum								42,235.25-
00002	COMMERCIAL STATIONERY CO 403773-0	00172659	16001574	OFFICE SUPP MCNAIR CENTER	08/31/17	259430	205.96-	-----
COMMERCIAL STATIONERY CO								
Sum								205.96-
00002	ECONOMY SUPPLY CO	279784	00172771	16001592 PLUMB SUPP TATUM SOCCER	08/31/17	259448	27.35-	
00002	ECONOMY SUPPLY CO	279893	00172772	16001626 MATLS S ANTONIO RESTRM FLOOR	08/31/17	259448	139.52-	-----
ECONOMY SUPPLY CO								
Sum								166.87-
00002	ELKINS WHOLESALE INC	323345-00	00172862	16001628 DUST MASKS GRNDS MAINT	08/31/17	259450	25.56-	-----
ELKINS WHOLESALE INC								
Sum								25.56-
00002	ESTERS, WILLARD (BUTCH)	OFFICIAL 8/1	02017780	16001597 OFFICIAL-ADULT SOFTBALL	08/31/17	259456	280.00-	-----
ESTERS, WILLARD (BUTCH)								
Sum								280.00-
00002	EVERETT, RAYFORD	OFFICIAL 8/1	02017780	16001598 OFFICIAL-ADULT SOFTBALL	08/31/17	259457	180.00-	-----
EVERETT, RAYFORD								
Sum								180.00-
00002	FASTENAL COMPANY	MSHAT200358	00170981	16001590 SAFETY SUPP MDOT SUMR WORKERS	08/31/17	259460	331.68-	
00002	FASTENAL COMPANY	MSHAT198857	00169776	16001591 SAFETY VESTS KHB CLEANUP	08/31/17	259460	119.88-	
00002	FASTENAL COMPANY	MSHAT202134	00172428	16001616 SAFETY VESTS WCU CLEANUP DAY	08/31/17	259460	124.90-	-----
FASTENAL COMPANY								
Sum								576.46-
00002	HAVARD PEST CONTROL INC	1176239	00172522	16001585 SPRAY DOG PARK FOR FLEAS	08/31/17	259486	385.00-	-----
HAVARD PEST CONTROL INC								
Sum								385.00-
00002	HOME DEPOT	1972191	00172183	16001575 LAWN EDGING JC PK SB FLD REPR	08/31/17	259490	74.88-	-----
HOME DEPOT								
Sum								74.88-
00002	INDOFF INC	2997674	00172564	16001579 OFFICE SUPP GRNDS MAINT	08/31/17	259492	136.94-	-----
INDOFF INC								
Sum								136.94-
00002	JACKSON, ROOSEVELT III	565894	00172278	16001623 REPAINT SIGNS IN ALL PARKS	08/31/17	259501	975.00-	
00002	JACKSON, ROOSEVELT III	565895	00172576	16001624 PRESS WASH KP/DAHMER TNS CRTS	08/31/17	259501	4,955.00-	-----
JACKSON, ROOSEVELT III								
Sum								5,930.00-
00002	JONES, BENJAMIN N	OFFICIAL 8/1	02017780	16001599 OFFICIAL-ADULT SOFTBALL	08/31/17	259503	120.00-	

JONES, BENJAMIN N							
Sum							120.00-
00002 KETTLEY, ANNETTE	SPORTS SERVS 02017779 16001608	SPORTS SUPPORT SERVICES	08/31/17	259506		136.00-	

KETTLEY, ANNETTE							
Sum							136.00-
00002 KETTLEY, VERONICA	SPORTS SERVS 02017779 16001609	SPORTS SUPPORT SERVICES	08/31/17	259507		24.00-	

KETTLEY, VERONICA							
Sum							24.00-
00002 KING, CHRISTOPHER	OFFICIAL 8/1 02017780 16001600	OFFICIAL-ADULT SOFTBALL	08/31/17	259509		235.00-	

KING, CHRISTOPHER							
Sum							235.00-
00002 LANCASTER'S MACHINE & WE 23246	00172763 16001622	REPRS U#19303 MOWER	08/31/17	259515		200.00-	

LANCASTER'S MACHINE & WE							
Sum							200.00-
00002 MID SOUTH GLASS INC	0044294	00172514 16001578	MIRROR 9TH ST BALLPARK	08/31/17	259532	12.00-	

MID SOUTH GLASS INC							
Sum							12.00-
00002 MORRIS, GEORGE T	OFFICIAL 8/1 02017780 16001601	OFFICIAL-ADULT SOFTBALL	08/31/17	259538		280.00-	

MORRIS, GEORGE T							
Sum							280.00-
00002 MS POWER COMPANY	8/17 PKS/REC 00201722 16001625	MNTHLY ELEC-PARKS & REC	08/31/17	259539		12,979.36-	

MS POWER COMPANY							
Sum							12,979.36-
00002 NEWELL PAPER COMPANY	4007719	00172402 16001577	WASP/HORNET SPRAY GRNDS MAINT	08/31/17	259545	288.00-	

NEWELL PAPER COMPANY							
Sum							288.00-
00002 OFFICE DEPOT INC	2096956254	00172516 16001587	PRINTER SUPP REC ADM	08/31/17	259547	75.98-	

OFFICE DEPOT INC							
Sum							75.98-
00002 OVERHEAD DOOR CO OF HBUR 82067	00172870 16001593	SHOP DOOR REPR GRNDS MAINT	08/31/17	259551		175.00-	

OVERHEAD DOOR CO OF HBUR							
Sum							175.00-
00002 PIERCE PLUMBING INC	600282	00172734 16001584	WTR FOUNTAIN REPR TATUM OFFC	08/31/17	259555	95.00-	

PIERCE PLUMBING INC							
Sum							95.00-
00002 PIONEER MANUFACTURING CO INV650200	00172606 16001580	BALLFIELD MARKING PAINT	08/31/17	259560		1,510.00-	

PIONEER MANUFACTURING CO							
Sum							1,510.00-
00002 PITTMAN, PERCY D	OFFICIAL 8/1 02017780 16001602	OFFICIAL-ADULT SOFTBALL	08/31/17	259561		120.00-	

PITTMAN, PERCY D							
Sum							120.00-
00002	POWELL, RANDY	SPORTS SERVS	02017779	16001610	SPORTS SUPPORT SERVICES	08/31/17 259563	168.00-

POWELL, RANDY							
Sum							168.00-
00002	SMITH, CARLTON L	OFFICIAL 8/1	02017780	16001603	OFFICIAL-ADULT SOFTBALL	08/31/17 259581	280.00-

SMITH, CARLTON L							
Sum							280.00-
00002	SOUTHERN ON SITE STORAGE	56866	00171721	16001573	PORTALETs 7/27/17 NNO KICKOFF	08/31/17 259587	510.00-
00002	SOUTHERN ON SITE STORAGE	57066	00172594	16001586	PORTALETs LATIN FESTIVAL	08/31/17 259587	170.00-

SOUTHERN ON SITE STORAGE							
Sum							680.00-
00002	SOUTHERN TIRE MART #9 (M	9024306	00172679	16001583	TIRES U#19303 MOWER	08/31/17 259590	364.12-
00002	SOUTHERN TIRE MART #9 (M	9024410	00172767	16001620	TIRES U#17085 & TRAILER	08/31/17 259590	94.00-

SOUTHERN TIRE MART #9 (M							
Sum							458.12-
00002	TERRELL, WINSTON	OFFICIAL 8/1	02017780	16001604	OFFICIAL-ADULT SOFTBALL	08/31/17 259598	120.00-

TERRELL, WINSTON							
Sum							120.00-
00002	TONI MORRISON SOCIETY, I	PO#171196 8/	00171196	16001588	BENCH BY THE ROAD PLAQUE	08/31/17 259603	1,180.53-

TONI MORRISON SOCIETY, I							
Sum							1,180.53-
00002	TROTTER, COREY	OFFICIAL 8/1	02017780	16001605	OFFICIAL-ADULT SOFTBALL	08/31/17 259605	520.00-

TROTTER, COREY							
Sum							520.00-
00002	TROTTER, JAMES C JR	OFFICIAL 8/1	02017780	16001606	OFFICIAL-ADULT SOFTBALL	08/31/17 259606	140.00-

TROTTER, JAMES C JR							
Sum							140.00-
00002	TRUCKS PLUS AUTO ACCESSO	35737	00172647	16001571	TOOL BOX U#8667 GRNDS MAINT	08/31/17 259607	329.00-
00002	TRUCKS PLUS AUTO ACCESSO	35787	00172812	16001621	REPR PTS FOR DUMP TRAILER	08/31/17 259607	40.00-

TRUCKS PLUS AUTO ACCESSO							
Sum							369.00-
00002	VARNADO, ALEXANDRIA	SPORTS SERVS	02017779	16001611	SPORTS SUPPORT SERVICES	08/31/17 259615	120.00-

VARNADO, ALEXANDRIA							
Sum							120.00-
00002	VARNADO, UNDRA	SPORTS SERVS	02017779	16001612	SPORTS SUPPORT SERVICES	08/31/17 259616	200.00-

VARNADO, UNDRA							
Sum							200.00-
00002	WAL-MART STORES INC	004060	00171915	16001576	BINGO PRIZES SENIOR CENTER	08/31/17 259620	65.05-

WAL-MART STORES INC
Sum

65.05-

Sum

78,029.40-

Date - 08/30/17

Vendor

Invoice
Number

Purchase Order

Claims
Number

Item	Description
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Check
Date

Check
No.

Check
Amount

HATT.MUNICIPAL FIRE PROTECTION

00005 JACKSON COMMUNICATIONS

S18563

00172584

16000076

RADIO BATTERIES FIRE DEPT

08/31/17

259498

3,334.00-

JACKSON COMMUNICATIONS

Sum

00005 TRUSTMARK NATIONAL BANK/ 27335025 NOT 02017774 16000075 FIRE TRUCK LEASE NOTE #22568

08/25/17

22054

3,334.00-

16,377.37-

TRUSTMARK NATIONAL BANK/

Sum

16,377.37-

Sum

19,711.37-

Date - 08/30/17

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
PAYROLL FUND							
00006 H'BURG FINANCE CO (GARN)	6696	02017167	16000563	GARNISHMENTIR	08/22/17	112118	309.35-
H'BURG FINANCE CO (GARN)							
Sum							309.35-
00006 MS EMPLOY SECURITY DEPT	0266	02017167	16000552	GARNISHMENT	08/22/17	112107	331.33-
MS EMPLOY SECURITY DEPT							
Sum							331.33-
00006 SOUTHERN FINANCIAL SYSTE	2690	02017167	16000550	GARNISHMENT	08/22/17	112105	454.87-
SOUTHERN FINANCIAL SYSTE							
Sum							454.87-
00006 STEADMAN, SUSAN K (GARN)	7095	02017167	16000551	GARNISHMENT	08/22/17	112106	495.95-
STEADMAN, SUSAN K (GARN)							
Sum							495.95-
Sum							1,591.50-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

Date - 08/30/17

PERIOD ENDING AUGUST 31, 2017

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
WATER & SEWER OPERATION/MAINT.							
00009 ADVANCED JANITORIAL SERV	10009	WTR BI	00172731	16001478 SERV 7/17 WTR BILLING	08/31/17	259377	495.00-
ADVANCED JANITORIAL SERV							
Sum							495.00-
00009 AT&T MOBILITY	287273578351	00172895	16001514	WIRELESS BILLING 7/17 W&SO&M	08/31/17	259389	612.72-
AT&T MOBILITY							
Sum							612.72-
00009 AUTO ARMATURE SERVICE IN	2651	00170239	16001499	BATTERY WAREHOUSE FORKLIFT	08/31/17	259390	127.95-
AUTO ARMATURE SERVICE IN							
Sum							127.95-
00009 BIG IRON DIESEL REPAIR L	RO1929	00172202	16001501	TRANSMISSION REPR U#11546 SWR	08/31/17	259398	1,499.80-
BIG IRON DIESEL REPAIR L							
Sum							1,499.80-
00009 BONNER ANALYTICAL TESTIN	63930	00172748	16001492	TESTING 8/17 N&S LAGOONS	08/31/17	259403	1,212.32-
BONNER ANALYTICAL TESTIN							
Sum							1,212.32-
00009 CENTRAL PIPE SUPPLY INC	S100106263.0	00171723	16001495	PLUMB SUPP TRANS STOCK	08/31/17	259415	2,465.12-
00009 CENTRAL PIPE SUPPLY INC	S1001062363.	00171723	16001496	PLUMB SUPP TRANS STOCK	08/31/17	259415	11.04-
00009 CENTRAL PIPE SUPPLY INC	S100106263.0	00171723	16001497	PLUMB SUPP TRANS STOCK	08/31/17	259415	84.64-
00009 CENTRAL PIPE SUPPLY INC	S100110187.0	00172544	16001518	PLUMB SUPP TRANS STOCK	08/31/17	259415	4,828.27-
00009 CENTRAL PIPE SUPPLY INC	S100110187.0	00172544	16001519	PLUMB SUPP TRANS STOCK	08/31/17	259415	137.03-
CENTRAL PIPE SUPPLY INC							
Sum							7,526.10-
00009 CERTIFIED LABORATORIES	2831794	00172589	16001521	DEGREASER CHEMICALS SEWER	08/31/17	259416	6,202.50-
CERTIFIED LABORATORIES							
Sum							6,202.50-
00009 CINTAS CORPORATION #J66	J66552960	00172735	16001487	UNIFORMS 8/21 TRANS	08/31/17	259420	76.26-
00009 CINTAS CORPORATION #J66	J66552961	00172735	16001488	MOP/MAT 8/21 PLANT	08/31/17	259420	13.93-
00009 CINTAS CORPORATION #J66	J66552960	00172735	16001489	UNIFORMS 8/21 PLANT	08/31/17	259420	41.21-
00009 CINTAS CORPORATION #J66	J66552960	00172735	16001490	UNIFORMS 8/21 SEWER	08/31/17	259420	57.36-
00009 CINTAS CORPORATION #J66	J66552960	00172735	16001491	UNIFORMS 8/21 LAGOON	08/31/17	259420	29.40-
CINTAS CORPORATION #J66							
Sum							218.16-
00009 CITY OF HATTIESBURG FUND	TRF 1ST 9/17	02017783	16001547	TRF 1ST 9/17/17 PAYROLL	08/30/17	22055	77,554.97-
CITY OF HATTIESBURG FUND							
Sum							77,554.97-
00009 COBURN'S SUPPLY CO INC	60328631	00172505	16001542	PLUMB SUPP TRANS STOCK	08/31/17	259426	4,255.48-

COBURN'S SUPPLY CO INC								
Sum								4,255.48-
00009	D P C ENTERPRISES LP	212001590-17	00172049	16001548	CHLORINE FORREST GENERAL TANK	08/31/17	259435	1,044.00-
00009	D P C ENTERPRISES LP	212001591-17	00172049	16001549	CHLORINE WESLEY TANK	08/31/17	259435	696.00-
00009	D P C ENTERPRISES LP	212001575-17	00172088	16001550	CHEMICALS SOUTH LAGOON	08/31/17	259435	4,376.00-
00009	D P C ENTERPRISES LP	212001576-17	00172088	16001551	CHEMICALS NORTH LAGOON	08/31/17	259435	2,188.00-

D P C ENTERPRISES LP								
Sum								8,304.00-
00009	DIXIE COMMUNITY UTILITY	SEWER BILLIN	00172732	16001486	SEWER BILLING 8/17	08/31/17	259442	396.00-

DIXIE COMMUNITY UTILITY								
Sum								396.00-
00009	ECONOMY SUPPLY CO	278363	00172276	16001520	SHELVING MATLS PLT WAREHOUSE	08/31/17	259448	1,090.00-

ECONOMY SUPPLY CO								
Sum								1,090.00-
00009	ELKINS WHOLESALE INC	318852	00171702	16001479	JANIT SUPP WTR PLANTS	08/31/17	259450	78.14-
00009	ELKINS WHOLESALE INC	318852-1	00171702	16001480	JANIT SUPP WTR PLANTS	08/31/17	259450	59.49-
00009	ELKINS WHOLESALE INC	316127	00170988	16001482	STEEL TOE WADERS TRANS DEPT	08/31/17	259450	818.28-
00009	ELKINS WHOLESALE INC	316127-1	00170988	16001483	STEEL TOE WADERS TRANS DEPT	08/31/17	259450	954.66-

ELKINS WHOLESALE INC								
Sum								1,910.57-
00009	GARNER LUMLEY ELECTRIC S	539327	00171857	16001505	ELEC SUPP PLT #2	08/31/17	259470	105.50-
00009	GARNER LUMLEY ELECTRIC S	539742	00172062	16001506	ELEC SUPP LIME FEEDER PLT #2	08/31/17	259470	33.37-

GARNER LUMLEY ELECTRIC S								
Sum								138.87-
00009	L & A CONTRACTING CO	483-087	00172824	16001511	AERATOR MNT 7/17-30 LAGOONS	08/31/17	259513	41,330.57-
00009	L & A CONTRACTING CO	483-088	00172824	16001512	AERATOR MNT 7/31-8/13 LAGOONS	08/31/17	259513	47,685.34-
00009	L & A CONTRACTING CO	483-089	00172933	16001546	AERATOR MNT 8/14-27 LAGOONS	08/31/17	259513	67,203.42-

L & A CONTRACTING CO								
Sum								156,219.33-
00009	LARRY'S WRECKER SERVICE	3336	00172646	16001513	TOWING U#15667 LAGOONS	08/31/17	259517	65.00-

LARRY'S WRECKER SERVICE								
Sum								65.00-
00009	MCELHANEY PLUMBING INC	259220	00172643	16001494	HAND TOOLS TRANS DEPT	08/31/17	259528	123.80-

MCELHANEY PLUMBING INC								
Sum								123.80-
00009	MORGAN, C J INC	2017047	00172826	16001503	FIRE TAP NEW HOLIDAY INN	08/31/17	259537	4,187.00-
00009	MORGAN, C J INC	2017054	00172826	16001504	MNTHLY BILLING THRU 7/21/17	08/31/17	259537	99,922.78-

MORGAN, C J INC								
Sum								104,109.78-
00009	MS POWER COMPANY	8/17 W&SO&M	00201722	16001522	MNTHLY ELEC-W&SO&M	08/31/17	259539	73,550.01-

MS POWER COMPANY								

Sum								73,550.01-
00009	NEWELL PAPER COMPANY	4008469	00172738	16001541	JANIT SUPP WTR BILLING OFFICE	08/31/17	259545	76.14-

NEWELL PAPER COMPANY								
Sum								76.14-
00009	NORTH LAMAR WATER ASSN	SEWER BILLIN	00172724	16001481	SEWER BILLING 8/17	08/31/17	259546	138.00-

NORTH LAMAR WATER ASSN								
Sum								138.00-
00009	PEARL RIVER VALLEY EPA (	8/17 W&SO&M	00201722	16001515	MNTHLY 8/17 PUBLIC SERVICES	08/31/17	259553	50.00-

PEARL RIVER VALLEY EPA (								
Sum								50.00-
00009	RJM MCQUEEN CONTRACTING	1278	00172817	16001507	ROAD REPR S 17TH/CONCART	08/31/17	259571	4,660.60-
00009	RJM MCQUEEN CONTRACTING	1279	00172817	16001508	ROAD REPR BROOKLANE/S 21ST	08/31/17	259571	4,051.95-
00009	RJM MCQUEEN CONTRACTING	1280	00172817	16001509	ROAD REPR 104 MLK/TUSCAN	08/31/17	259571	5,396.40-
00009	RJM MCQUEEN CONTRACTING	1290	00172817	16001510	7/17 PUMPING	08/31/17	259571	20,693.85-
00009	RJM MCQUEEN CONTRACTING	1297	00172922	16001544	SEWER REPR MARIE ST/MCINNIS	08/31/17	259571	2,535.00-
00009	RJM MCQUEEN CONTRACTING	1298	00172922	16001545	SEWER REPR N 20TH/MABLE	08/31/17	259571	23,280.30-

RJM MCQUEEN CONTRACTING								
Sum								60,618.10-
00009	SOUTHERN PINE ELECTRIC P	8/17 W&SO&M	00201722	16001516	MNTHLY 8/17 PUBLIC SERVICES	08/31/17	259588	1,010.53-

SOUTHERN PINE ELECTRIC P								
Sum								1,010.53-
00009	SOUTHERN WATERWORKS SUPP	71316	00172658	16001500	PLUMB SUPP SEWER DEPT	08/31/17	259592	554.21-

SOUTHERN WATERWORKS SUPP								
Sum								554.21-
00009	STANDARD OFFICE SUPPLY C	0071789-001	00172655	16001493	OFFICE SUPP WTR BILLING	08/31/17	259593	83.61-

STANDARD OFFICE SUPPLY C								
Sum								83.61-
00009	STRIBLING EQUIPMENT CO L	RS006017436:	00172303	16001543	REPRS U#15916 SEWER DEPT	08/31/17	259596	72.43-

STRIBLING EQUIPMENT CO L								
Sum								72.43-
00009	TRI STATE CHLORINATION	844	00172270	16001498	SWITCHOVER MODULES WTR PLTS	08/31/17	259604	1,130.00-

TRI STATE CHLORINATION								
Sum								1,130.00-
00009	WAL-MART STORES INC	006248	00171822	16001502	OFFICE SUPP WTR BILLING	08/31/17	259620	91.12-

WAL-MART STORES INC								
Sum								91.12-
00009	WARREN PAVING INC	2948	00170839	16001523	HOT ASPHALT MIX SEWER DEPT	08/31/17	259624	321.57-
00009	WARREN PAVING INC	2978	00170839	16001524	HOT ASPHALT MIX SEWER DEPT	08/31/17	259624	241.32-
00009	WARREN PAVING INC	3012	00170839	16001525	HOT ASPHALT MIX SEWER DEPT	08/31/17	259624	498.58-
00009	WARREN PAVING INC	3059	00170839	16001526	HOT ASPHALT MIX SEWER DEPT	08/31/17	259624	398.12-
00009	WARREN PAVING INC	3223	00170839	16001527	HOT ASPHALT MIX SEWER DEPT	08/31/17	259624	575.76-
00009	WARREN PAVING INC	3234	00170839	16001528	HOT ASPHALT MIX SEWER DEPT	08/31/17	259624	197.23-

00009	WARREN	PAVING	INC	3238	00170839	16001529	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	528.58-
00009	WARREN	PAVING	INC	3279	00170839	16001530	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	358.93-
00009	WARREN	PAVING	INC	3344	00170839	16001531	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	555.55-
00009	WARREN	PAVING	INC	3386	00170839	16001532	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	388.33-
00009	WARREN	PAVING	INC	3446	00170839	16001533	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	141.49-
00009	WARREN	PAVING	INC	3455	00170839	16001534	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	395.68-
00009	WARREN	PAVING	INC	3541	00170839	16001535	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	418.95-
00009	WARREN	PAVING	INC	3545	00170839	16001536	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	385.88-
00009	WARREN	PAVING	INC	3589	00170839	16001537	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	984.29-
00009	WARREN	PAVING	INC	3632	00170839	16001538	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	323.40-
00009	WARREN	PAVING	INC	3643	00170839	16001539	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	211.93-
00009	WARREN	PAVING	INC	3674	00170839	16001540	HOT	ASPHALT	MIX	SEWER	DEPT	08/31/17	259624	435.49-

WARREN PAVING INC

Sum

7,361.08-

00009	WILLMUT	GAS & OIL	COMPAN	8/17	W&SO&M	00201722	16001517	MNTHLY	GAS-W&SO&M	08/31/17	259633	13.12-
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WILLMUT GAS & OIL COMPAN

Sum

13.12-

Sum

516,810.70-

Date - 08/30/17

Vendor

Invoice
Number

Purchase Order

Claims
Number

Item	Description
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Check
Date

Check
No.

Check
Amount

WATER & SEWER B & I

00010 FIRST SECURITY BANK

#533 P&I 201 02017782 16000012 DEBT SERV PAY '10 W&S G/0

08/28/17

311537

194,189.38-

FIRST SECURITY BANK

Sum

194,189.38-

Sum

194,189.38-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

PERIOD ENDING AUGUST 31, 2017

Date

- 08/30/17

Vendor

Invoice
NumberPurchase
OrderClaims
NumberItem
DescriptionCheck
DateCheck
No.Check
Amount

WATER & SEWER FUND

00011 ALBARADO, SARAH

METER DEP RF 02017761 16000904 METER DEP RFD

08/31/17

259381

26.00-

ALBARADO, SARAH

Sum

26.00-

00011 BARBIER, TRUDY

METER DEP RF 02017761 16000891 METER DEP RFD

08/31/17

259391

23.00-

BARBIER, TRUDY

Sum

23.00-

00011 BARROW, STEPHANIE

METER DEP RF 02017761 16000902 METER DEP RFD

08/31/17

259392

26.00-

BARROW, STEPHANIE

Sum

26.00-

00011 BELL, TERESA R

METER DEP RF 02017761 16000873 METER DEP RFD

08/31/17

259395

75.00-

BELL, TERESA R

Sum

75.00-

00011 BETSCH, MOLLIE

METER DEP RF 02017761 16000895 METER DEP RFD

08/31/17

259396

26.00-

BETSCH, MOLLIE

Sum

26.00-

00011 BEVILL, JEANNIE

METER DEP RF 02017761 16000906 METER DEP RFD

08/31/17

259397

9.80-

BEVILL, JEANNIE

Sum

9.80-

00011 BLANKINSHIP, ANNE

METER DEP RF 02017761 16000889 METER DEP RFD

08/31/17

259399

26.00-

BLANKINSHIP, ANNE

Sum

26.00-

00011 BLAYLOCK, ANNA ROSE

METER DEP RF 02017761 16000878 METER DEP RFD

08/31/17

259400

26.00-

BLAYLOCK, ANNA ROSE

Sum

26.00-

00011 BROOME, GRAHAM

METER DEP RF 02017761 16000888 METER DEP RFD

08/31/17

259407

19.44-

BROOME, GRAHAM

Sum

19.44-

00011 BROWN, REBECCA504

METER DEP RF 02017761 16000901 METER DEP RFD

08/31/17

259408

23.00-

BROWN, REBECCA504

Sum

23.00-

00011 BROWN, WESLEY

METER DEP RF 02017762 16000923 METER DEP RFD

08/31/17

259409

26.00-

BROWN, WESLEY

Sum

26.00-

00011 BURCHFIELD, JACOB

METER DEP RF 02017761 16000875 METER DEP RFD

08/31/17

259410

72.00-

BURCHFIELD, JACOB			-----
Sum			72.00-
00011 CHRISTOFFERSON, KAELYN	METER DEP RF 02017761 16000881 METER DEP RFD	08/31/17 259418	75.00-

CHRISTOFFERSON, KAELYN			
Sum			75.00-
00011 CLARK, CLARA	METER DEP RF 02017761 16000882 METER DEP RFD	08/31/17 259422	41.88-

CLARK, CLARA			
Sum			41.88-
00011 CLARK, KRYSTAL	METER DEP RF 02017762 16000925 METER DEP RFD	08/31/17 259423	26.00-

CLARK, KRYSTAL			
Sum			26.00-
00011 CROWELL, RASHEEDA	METER DEP RF 02017761 16000910 METER DEP RFD	08/31/17 259433	26.00-

CROWELL, RASHEEDA			
Sum			26.00-
00011 DAHLIA LLC	METER DEP RF 02017761 16000885 METER DEP RFD	08/31/17 259437	26.00-

DAHLIA LLC			
Sum			26.00-
00011 DAVENPORT, JERMARLO	METER DEP RF 02017761 16000917 METER DEP RFD	08/31/17 259438	26.00-

DAVENPORT, JERMARLO			
Sum			26.00-
00011 DAVIS, SHELBY	METER DEP RF 02017761 16000897 METER DEP RFD	08/31/17 259439	22.00-

DAVIS, SHELBY			
Sum			22.00-
00011 DEEN, BOBBY	METER DEP RF 02017761 16000865 METERE DEP RFD	08/31/17 259440	20.00-

DEEN, BOBBY			
Sum			20.00-
00011 DEPEW, JOYCE	METER DEP RF 02017761 16000911 METER DEP RFD	08/31/17 259441	23.88-

DEPEW, JOYCE			
Sum			23.88-
00011 DUKE, DEBORA	METER DEP RF 02017761 16000915 METER DEP RFD	08/31/17 259445	26.00-

DUKE, DEBORA			
Sum			26.00-
00011 EDWARDS, PAUL	METER DEP RF 02017761 16000871 METER DEP RFD	08/31/17 259449	16.44-

EDWARDS, PAUL			
Sum			16.44-
00011 FONDREN, KIRSTEN	METER DEP RF 02017761 16000890 METER DEP RFD	08/31/17 259465	26.00-

FONDREN, KIRSTEN			
Sum			26.00-
00011 GRANT, KIRA	METER DEP RF 02017761 16000913 METER DEP RFD	08/31/17 259475	26.00-

GRANT, KIRA				
Sum				26.00-
00011 GUNTER JASON	METER DEP RF 02017761 16000870	METER DEP RFD	08/31/17 259477	75.00-

GUNTER JASON				75.00-
Sum				26.00-
00011 HARRIS, DYLAN	METER DEP RF 02017762 16000924	METER DEP RFD	08/31/17 259482	26.00-

HARRIS, DYLAN				26.00-
Sum				26.00-
00011 HARRISON, SCOTT	METER DEP RF 02017761 16000883	METER DEP RFD	08/31/17 259483	26.00-

HARRISON, SCOTT				26.00-
Sum				75.00-
00011 IVEY, DANIEL	METER DEP RF 02017761 16000898	METER DEP RFD	08/31/17 259497	26.00-

IVEY, DANIEL				75.00-
Sum				26.00-
00011 JACKSON, DEJA	METER DEP RF 02017761 16000893	METER DEP RFD	08/31/17 259499	26.00-

JACKSON, DEJA				26.00-
Sum				26.00-
00011 KEEFER, LUCAS	METER DEP RF 02017761 16000899	METER DEP RFD	08/31/17 259504	26.00-

KEEFER, LUCAS				26.00-
Sum				75.00-
00011 KELLER, BRIDGET	METER DEP RF 02017761 16000912	METER DEP RFD	08/31/17 259505	26.00-

KELLER, BRIDGET				75.00-
Sum				26.00-
00011 KHAN, JACOB	METER DEP RF 02017761 16000905	METER DEP RFD	08/31/17 259508	26.00-

KHAN, JACOB				26.00-
Sum				75.00-
00011 KLIPSCH, ELYSSA	METER DEP RF 02017761 16000874	METER DEP RFD	08/31/17 259510	26.00-

KLIPSCH, ELYSSA				75.00-
Sum				26.80-
00011 KRAVET, TAYLOR	METER DEP RF 02017762 16000922	METER DEP RFD	08/31/17 259511	26.00-

KRAVET, TAYLOR				26.80-
Sum				26.00-
00011 KREIS, NICHOLAS	METER DEP RF 02017761 16000887	METER DEP RFD	08/31/17 259512	26.00-

KREIS, NICHOLAS				26.00-
Sum				75.00-
00011 LANDER, RILEIGH	METER DEP RF 02017761 16000879	METER DEP RFD	08/31/17 259516	26.00-

LANDER, RILEIGH				75.00-
Sum				26.00-
00011 LOVITT, PENNY	METER DEP RF 02017761 16000914	METER DEP RFD	08/31/17 259520	26.00-

LOVITT, PENNY								-----
Sum								26.00-
00011	MAGNOLIA STATE BANK	METER DEP RF	02017761	16000868	METER DEP RFD	08/31/17	259524	41.88-
00011	MAGNOLIA STATE BANK	METER DEP RF	02017761	16000869	METER DEP RFD	08/31/17	259525	41.88-

MAGNOLIA STATE BANK								
Sum								83.76-
00011	MASSENGALE, AMY	METER DEP RF	02017761	16000908	METER DEP RFD	08/31/17	259527	75.00-

MASSENGALE, AMY								
Sum								75.00-
00011	MCMICHAEL MARGARET 18	METER DEP RF	02017762	16000927	METER DEP RFD	08/31/17	259529	75.00-

MCMICHAEL MARGARET 18								
Sum								75.00-
00011	MISSIMER, TAYLOR STAFFOR	METER DEP RF	02017761	16000877	METER RFD DEP	08/31/17	259534	26.00-

MISSIMER, TAYLOR STAFFOR								
Sum								26.00-
00011	OUTBACK CAR WASH	METER DEP RF	02017761	16000866	METER DEP RFD	08/31/17	259550	66.88-

OUTBACK CAR WASH								
Sum								66.88-
00011	PHILLPS, HUNTER M	METER DEP RF	02017761	16000880	METER DEP RFD	08/31/17	259554	26.00-

PHILLPS, HUNTER M								
Sum								26.00-
00011	POHLE, ERIK	METER DEP RF	02017761	16000903	METER DEP RFD	08/31/17	259562	26.00-

POHLE, ERIK								
Sum								26.00-
00011	PRESTRIDGE, DUSTIN	METER DEP RF	02017762	16000926	METER DEP RFD	08/31/17	259564	9.80-

PRESTRIDGE, DUSTIN								
Sum								9.80-
00011	RATCLIFF, KNEZHA NHYCOL	METER DEP RF	02017762	16000920	METER DEP RFD	08/31/17	259567	11.00-

RATCLIFF, KNEZHA NHYCOL								
Sum								11.00-
00011	ROBINSON, JENNIFER5	METER DEP RF	02017761	16000909	METER DEP RFD	08/31/17	259572	26.00-

ROBINSON, JENNIFER5								
Sum								26.00-
00011	ROYAL OAKS RENTAL412	WTR OVRPMT R	02017776	16000928	WTR OVRPMT RFD	08/31/17	259575	98.00-

ROYAL OAKS RENTAL412								
Sum								98.00-
00011	SMITH, KAMERON	METER DEP RF	02017761	16000894	METER DEP RFD	08/31/17	259583	26.00-

SMITH, KAMERON								
Sum								26.00-

00011 STANFORD, DAPHNEY	METER DEP RF 02017761 16000900 METER DEP RFD	08/31/17	259594	26.00-

STANFORD, DAPHNEY				
Sum				26.00-
00011 STUTZMAN, TYLER	METER DEP RF 02017761 16000896 METER DEP RFD	08/31/17	259597	26.00-

STUTZMAN, TYLER				
Sum				26.00-
00011 THE REAL ESTATE CENTER L	METER DEP RF 02017761 16000916 METER DEP RFD	08/31/17	259599	26.00-

THE REAL ESTATE CENTER L				
Sum				26.00-
00011 THOMAS, BRADLEY	METER DEP RF 02017762 16000919 METER DEP RFD	08/31/17	259600	26.00-

THOMAS, BRADLEY				
Sum				26.00-
00011 THORNTON, MADELINE	METER DEP RF 02017761 16000886 METER DEP RFD	08/31/17	259601	75.00-

THORNTON, MADELINE				
Sum				75.00-
00011 TURBO GROUP OPERATIONS,	METER DEP RF 02017761 16000876 METER DEP RFD	08/31/17	259608	75.00-

TURBO GROUP OPERATIONS,				
Sum				75.00-
00011 WALKER, MORGAN	METER DEP RF 02017762 16000918 METER DEP RFD	08/31/17	259621	43.00-

WALKER, MORGAN				
Sum				43.00-
00011 WALLER, GREGORY	METER DEP RF 02017761 16000907 METER DEP RFD	08/31/17	259622	9.80-

WALLER, GREGORY				
Sum				9.80-
00011 WARRICK, JOHN	METER DEP RF 02017761 16000872 METER DEP RFD	08/31/17	259625	26.00-

WARRICK, JOHN				
Sum				26.00-
00011 WEST, MANDY R	METER DEP RF 02017761 16000884 METER DEP RFD	08/31/17	259630	19.44-

WEST, MANDY R				
Sum				19.44-
00011 WILEMAN, GUY R	METER DEP RF 02017761 16000867 METER DEP RFD	08/31/17	259632	26.00-

WILEMAN, GUY R				
Sum				26.00-
00011 YISRAEL, YEHOSHUA	METER DEP RF 02017762 16000921 METER DEP RFD	08/31/17	259634	26.00-

YISRAEL, YEHOSHUA				
Sum				26.00-
00011 YOUNG,OLIVIA	METER DEP RF 02017761 16000892 METER DEP RFD	08/31/17	259635	26.00-

YOUNG,OLIVIA				
Sum				26.00-

Sum

2,322.92-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

Date - 08/30/17

PERIOD ENDING AUGUST 31, 2017

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
POLICE FORFEITURES FUND							
00019 GULF COAST OFFICE PRODUC	28642-1	00170700	16000048	EVIDENCE STORAGE BOXES	08/31/17	259476	119.52-
GULF COAST OFFICE PRODUC							
Sum							119.52-
Sum							119.52-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

Date

- 08/30/17

PERIOD ENDING AUGUST 31, 2017

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
TAX COLLECTOR'S FUND							
00027 CITY OF HATTIESBURG FUND	MILLAGE DIST	02017773	16000111	MILLAGE DIST TO TIF	08/24/17	311535	3,000.00-

CITY OF HATTIESBURG FUND							
Sum							3,000.00-
00027 H'BURG PUBLIC SCHOOLS	8/17 MILLAGE	02017771	16000108	8/17 MILLAGE	08/23/17	311530	218,152.27-
00027 H'BURG PUBLIC SCHOOLS	8/17 MILLAGE	02017771	16000109	8/17 MILLAGE	08/23/17	311531	28,347.67-

H'BURG PUBLIC SCHOOLS							
Sum							246,499.94-

Sum							249,499.94-

00073 VERIZON WIRELESS	9787230349	00172702 16000436 PARATRANSIT GPS 5/11-6/10/17	08/31/17	259617	142.55-
00073 VERIZON WIRELESS	9790710823	00172730 16000437 PARATRANSIT GPS 7/11-8/10/17	08/31/17	259617	142.45-

VERIZON WIRELESS					
Sum					285.00-
00073 WHEELER'S JANITORIAL SUP 0401059		00172268 16000439 JANIT/OFFICE SUPP	08/31/17	259631	715.22-
00073 WHEELER'S JANITORIAL SUP 0401060		00172670 16000442 JANIT SUPP	08/31/17	259631	331.50-

WHEELER'S JANITORIAL SUP					
Sum					1,046.72-

Sum					32,047.45-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

Date - 08/30/17

PERIOD ENDING AUGUST 31, 2017

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount

WATER&SEWER CONSTRUCTION FUND							
00075 PRECISION CONSTRUCTION L	EST #1	8/7/1	00172821	16000096 S 31st DRAINAGE EST #1	08/24/17	311536	383,900.17-

PRECISION CONSTRUCTION L							383,900.17-
Sum							6,649.54-
00075 SOUTHERN MS PLANNING & D	11043		00172656	16000095 WTR LINE EXTN 98/RUNNELS RD	08/31/17	259586	6,649.54-

SOUTHERN MS PLANNING & D							6,649.54-
Sum							-----
Sum							390,549.71-

CITY OF HATTIESBURG

DOCKET OF CLAIMS

Date - 08/30/17

PERIOD ENDING AUGUST 31, 2017

Vendor	Invoice Number	Purchase Order	Claims Number	Item Description	Check Date	Check No.	Check Amount
COMMUNITY CENTERS' FUND							
00077 AT&T MOBILITY	287273578351	00172895	16000449	WIRELESS BILLING 7/17 COMM CN	08/31/17	259389	60.20-
AT&T MOBILITY							
Sum							60.20-
00077 BONEY, EVAN (REFUNDS)	SHERRILL CEN	02017777	16000454	DAMAGE DEPOSIT REFUND	08/31/17	259402	100.00-
BONEY, EVAN (REFUNDS)							
Sum							100.00-
00077 CITY OF HATTIESBURG FUND TRF 1ST 9/17	02017783	16000460	TRF 1ST 9/17/17	PAYROLL	08/30/17	311539	16,886.93-
CITY OF HATTIESBURG FUND							
Sum							16,886.93-
00077 DONALDSON, ALEX (REFUNDS CE ROY CENTE	02017777	16000450	DAMAGE DEPOSIT REFUND	08/31/17	259443		100.00-
DONALDSON, ALEX (REFUNDS							
Sum							100.00-
00077 ESSCO HEATING AND A/C	34883	00172067	16000462	A/C UNIT SHERRILL KITCHEN	08/31/17	259455	7,900.00-
ESSCO HEATING AND A/C							
Sum							7,900.00-
00077 HUGHES SUPPLY	S150825992.0	00172524	16000458	A/C REPR PTS SIGLELR CENTER	08/31/17	259491	314.39-
HUGHES SUPPLY							
Sum							314.39-
00077 JACKSON, LASHANDA (REFUN SHERRILL CEN	02017777	16000452	DAMAGE DEPOSIT REFUND	08/31/17	259500		100.00-
JACKSON, LASHANDA (REFUN							
Sum							250.00-
00077 JOHNSON, LUMAY (REFUNDS) CULTURAL CEN	02017777	16000456	DAMAGE DEPOSIT REFUND	08/31/17	259502		100.00-
JOHNSON, LUMAY (REFUNDS)							
Sum							250.00-
00077 LESURE, TAMEKIA (REFUNDS SHERRILL CEN	02017777	16000453	DAMAGE DEPOSIT REFUND	08/31/17	259518		100.00-
LESURE, TAMEKIA (REFUNDS							
Sum							100.00-
00077 MCSWAIN, JEFFERY (REFUND SHERRILL CEN	02017777	16000455	DAMAGE DEPOSIT REFUND	08/31/17	259530		100.00-
MCSWAIN, JEFFERY (REFUND							
Sum							100.00-
00077 MS POWER COMPANY	8/17 COMM CN	00201722	16000459	MNTHLY ELEC-COMM CENTERS	08/31/17	259539	3,955.03-
MS POWER COMPANY							
Sum							3,955.03-
00077 NAYLOR, DARLENE (REFUNDS SITGLER CENT	02017777	16000451	DAMAGE DEPOSIT REFUND	08/31/17	259544		100.00-

NAYLOR, DARLENE (REFUNDS							
Sum							100.00-
00077	TYCO INTEGRATED SECURITY	28898519	00172696	16000447	SECURITY 8-10/17	CULTURAL CNT	08/31/17 259609 386.63-

TYCO INTEGRATED SECURITY							
Sum							386.63-
00077	UNITED RENTALS (NORTH AM	149324481-00	00172583	16000461	LIFT SHERRILL/CE ROY	PAINTING	08/31/17 259613 866.69-

UNITED RENTALS (NORTH AM							
Sum							866.69-
00077	WAL-MART STORES INC	001291	00172220	16000448	BATTERIES COMM	CENTERS	08/31/17 259620 168.55-

WAL-MART STORES INC							
Sum							168.55-
00077	WILLMUT GAS & OIL COMPAN	8/17	COMM CN	00201722	16000457	MNTHLY GAS-COMM CNTRS	08/31/17 259633 27.16-

WILLMUT GAS & OIL COMPAN							
Sum							27.16-

Sum							31,415.58-

Date - 08/30/17

Vendor

Invoice
Number

Purchase Order

Claims
Number

Item	Description
------	-------------

Check
Date

Check
No.

Check
Amount

INDUSTRIAL PARK DEVELOPMENT

00087	AREA DEVELOPMENT PARTNER Q/E	9/30/17	00172672	16000038	ECO DEV CONTRIB	QTE	9/30/17	08/31/17	259386	97,500.00-
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AREA DEVELOPMENT PARTNER

Sum	97,500.00-
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Grand Total Level

Sum	3,374,543.53-
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City of Hattiesburg, MS

*200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401*



Meeting Agenda - Final

Tuesday, September 5, 2017

4:00 PM

Council Chambers

City Council - Amendments to the Agenda

Remove Policy Agenda Items VI.-1, VI.-4 and VI.-5 at the request of the Administration,

And, Amend Policy Agenda Item VI.-6 to read as follows:

- VI.-6** [2017-693](#) Approve waiver valuations and appraisal amounts and declare them as fair market value for property necessary for COMSWIP Sewer Project Phase XII Site 4 and Site 5, pursuant to MS Code 43-37-3 and other applicable statutes; Authorize fair market value offers for said parcels.

Attachments: [Site 4 - Madison Place Blvd 2](#)
[Site 4 - 211-A Pecan Grove Dr](#)
[Site 4 - 211-B Pecan Grove Dr](#)
[Site 4 - Madison Place Blvd](#)
[Site 5 - 71 J Ed Turner](#)
[Site 5 - 79 J Ed Turner](#)
[Site 5 - 85 J Ed Turner](#)
[Site 5 - 123 J Ed Turner](#)
[Site 5 - 131 J Ed Turner](#)
[Site 5 - J Ed Turner](#)



City of Hattiesburg, MS

200 Forrest St.
P.O. Box 1898
Hattiesburg, MS 39401

Master

File Number: 2017-693

File ID: 2017-693

Type: Regular Agenda Item

Status: Passed

Version: 3

Reference:

In Control: City Council

Requester: Lamar Rutland

File Created: 08/30/2017

Brief Title: Sewer XII Land Acquisitions for Site 4 and Site 5

Final Action: 09/05/2017

Minute Book Number: 2017-369/371

Title:

Approve waiver valuations and appraisal amounts and declare them as fair market value for property necessary for COMSWIP Sewer Project Phase XII Site 4 and Site 5, pursuant to MS Code 43-37-3 and other applicable statutes; Authorize fair market value offers for said parcels.

Notes:

Agenda Date: 09/05/2017

Indexes:

Agenda Number: VI.-6

Sponsors:

Enactment Date:

Attachments: Site 4 - Madison Place Blvd 2, Site 4 - 211-A Pecan Grove Dr, Site 4 - 211-B Pecan Grove Dr, Site 4 - Madison Place Blvd, Site 5 - 71 J Ed Turner, Site 5 - 79 J Ed Turner, Site 5 - 85 J Ed Turner, Site 5 - 123 J Ed Turner, Site 5 - 131 J Ed Turner, Site 5 - J Ed Turner

Enactment Number:

Contact:

Meeting Date: 09/05/2017

Drafter: Sharon Waits

Effective Date:

History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
3	City Council - Amendments to the Agenda	09/05/2017					
2	City Council	09/05/2017	Approve				Pass

Action Text: A MOTION was made by Council Member George and seconded by Council Member Brown to Approve waiver valuations and appraisal amounts and declare them as fair market value for property necessary for COMSWIP Sewer Project Phase V Site 4 and Site 5, pursuant to MS Code 43-37-3 and other applicable statutes; Authorize fair market value offers for said parcels.

There being no discussion, the Motion received the affirmative vote of the Council as follows:

Yeas: 4 - George, Carroll, Dryden and Brown

Nays: 1 - Delgado

Yea:	4	Council Member George
		Council President Carroll
		Council Vice President Dryden
		Council Member Brown
Nay:	1	Council Member Delgado

Text of Legislative File 2017-693

Title

Approve waiver valuations and appraisal amounts and declare them as fair market value for property necessary for COMSWIP Sewer Project Phase XII Site 4 and Site 5, pursuant to MS Code 43-37-3 and other applicable statutes; Authorize fair market value offers for said parcels.

Summary

Sewer XII Land Acquisitions for Site 4 and Site 5

Budget Information

093695.7220.54

WAIVER VALUATION

Parcel No. 051G-01-292.000

Project No. Comswip Sewer Project Phase V

County: Lamar

Address: Madison Place Blvd.
Hattiesburg, MS 39402

Owner(s): Madison Place Homeowners Assoc.

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
051G-01-292.000	\$300.00	-0-	-0-	\$300.00

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 13, 2017

APR	-	AS PER RECORD
APS	-	AS PER SURVEY
BK	-	BOOK
PG	-	PAGE
NC	-	NO CORNER SET
SIP	-	SET 1/2" REBAR
SF	-	SQUARE FEET

SCALE: 1" = 50'

JUDGED TO BE A CLASS 'C' SURVEY
SURVEYED TO CLASS 'B'

BEARINGS ARE BASED ON THE RECORD
BEARING OF EAST PROPERTY LINE OF
THE ADJACENT PARCEL DESCRIBED IN
LAMAR COUNTY LAND RECORDS BK
20W, PG 382.

REFERENCE MATERIALS
LAMAR COUNTY TAX MAP

WESTOVER 4TH ADDITION SUBDIVISION PLAT
BK 1 PG 143 03-06-1972

WESTOVER WEST SUBDIVISION PLAT
BK 1 PG 149 07-25-1973

SUBSTITUTED TRUSTEE'S DEED
BK 20W PG 382 12-10-2009

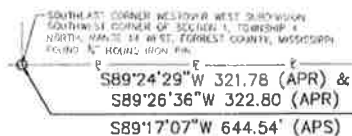
QUIT CLAIM DEEDS
BK 211 PG 89 08-24-2010
BK 211 PG 289 09-01-2010

WARRANTY DEED
BK 20G PG 509 11-08-2008

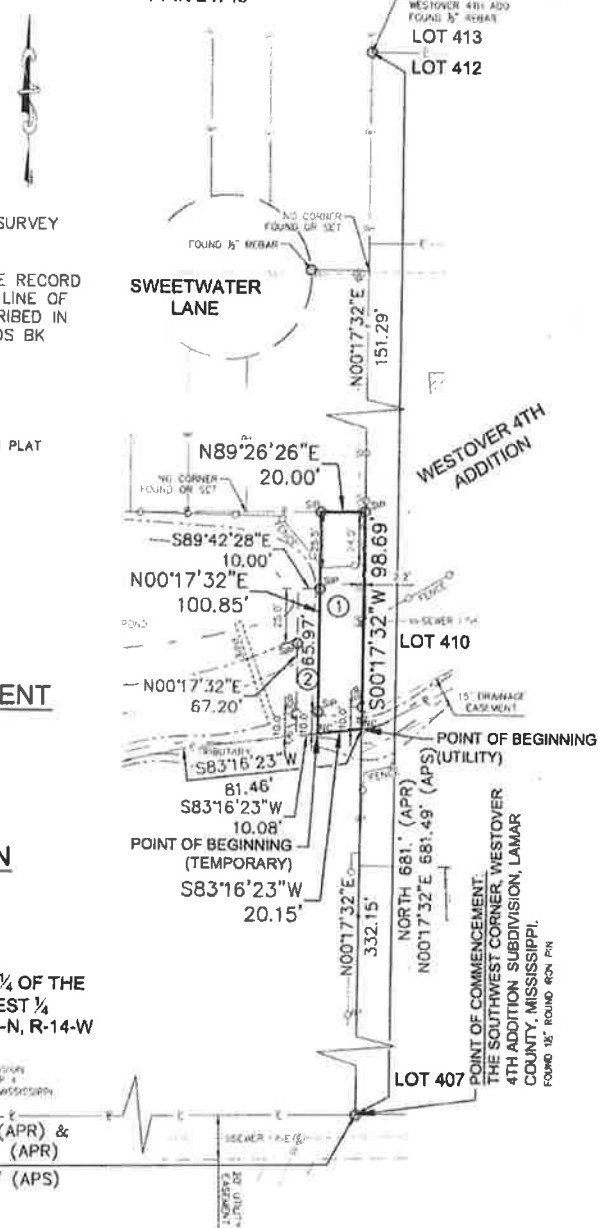
±0.05 ACRES
(±1,995 SF)

±0.02 ACRES
(±666 SF)

SOUTHWEST ¼ OF THE
SOUTHWEST ¼
SECTION 1, T-4-N, R-14-W



COUNTY TAX PARCEL No. 051G-01-292.000
PPIN 24746



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COUNTY TAX PARCEL No. 051G-01-292.000
PPIN 24746

State of Mississippi
County of Lamar

This is Certify that I have made a survey of the following described parcels.

Utility Easement

A 20.00 foot wide Utility Easement being described as being a part of the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 1, Township 4 North, Range 14 West, County of Lamar, State of Mississippi and being more particularly described as Commencing at a $\frac{1}{2}$ Inch Round Iron Pin representing the Southwest Corner of Westover Fourth Addition Subdivision as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, thence run N00°17'32"E along the West Line of said Subdivision of for 332.15 feet to a Point in a Tributary of Mixon's Creek and the Point of Beginning (Witness Corner: from said Point of Beginning continue N00°17'32"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar); thence run S83°16'23"W along said Tributary for 20.15 feet (Witness Corner: from said Point run N00°17'32"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar), thence run N00°17'32"E and parallel to said West Subdivision Line for 100.85 feet to a $\frac{1}{2}$ Inch Rebar, thence run N89°26'26"E for 20.00 feet to a $\frac{1}{2}$ Inch Rebar representing a Point on said West Subdivision Line, thence run S00°17'32"W along said West Subdivision Line for 98.69 feet to the Point of Beginning, comprising 0.05 Acres (1,995 Square Feet), more or less.

Temporary Construction Easement

A 10.00 foot wide Temporary Construction Easement being described as being a part of the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 1, Township 4 North, Range 14 West, County of Lamar, State of Mississippi and being more particularly described as Commencing at a $\frac{1}{2}$ Inch Round Iron Pin representing the Southwest Corner of Westover Fourth Addition Subdivision as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, thence run N00°17'32"E along the West Line of said Subdivision of for 332.15 feet to a Point in a Tributary of Mixon's Creek (Witness Corner: from said Point of Commencement run N00°17'32"E for 342.15 feet to a $\frac{1}{2}$ Inch Rebar), thence run S83°16'23"W along said Tributary for 20.15 feet to the Point of Beginning (Witness Corner: from said Point of Beginning run N00°17'32"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar); thence continue S83°16'23"W along said Tributary for 10.08 feet (Witness Corner: from said Point in Mixon's Creek Tributary run N00°17'32"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar), thence run N00°17'32"E and parallel to said West Subdivision Line for 67.20 feet (Witness Corner: from said Point in Mixon's Creek Tributary run N00°17'32"E for 42.20 feet to a $\frac{1}{2}$ Inch Rebar), thence run S89°42'28"E for 10.00 feet to a $\frac{1}{2}$ Inch Rebar, thence run S00°17'32"W and parallel to said West Subdivision Line for 65.97 feet to the Point of Beginning, comprising 0.02 Acres (666 Square Feet), more or less.


Nicholas M. Connolly, PE, PLS
Civil Engineer No. 12791
Land Surveyor No. 2973

Photograph Addendum

Owner	Madison Place Homeowners Assoc.				
Property Address	Madison Place Blvd.				
City	Hattiesburg	County	Lamar	State	MS Zip Code 39402
Client	City of Hattiesburg				



View of easement area



View of Madison Place Blvd

WAIVER VALUATION

Parcel No. 051G-01-354.000

Project No. Comswip Sewer Project Phase V

County: Lamar

Address: 211-A Pecan Grove Drive
Hattiesburg, MS 39402

Owner(s): Wendell Newsome

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
051G-01-354.000	\$610.00	-0-	-0-	\$610.00

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

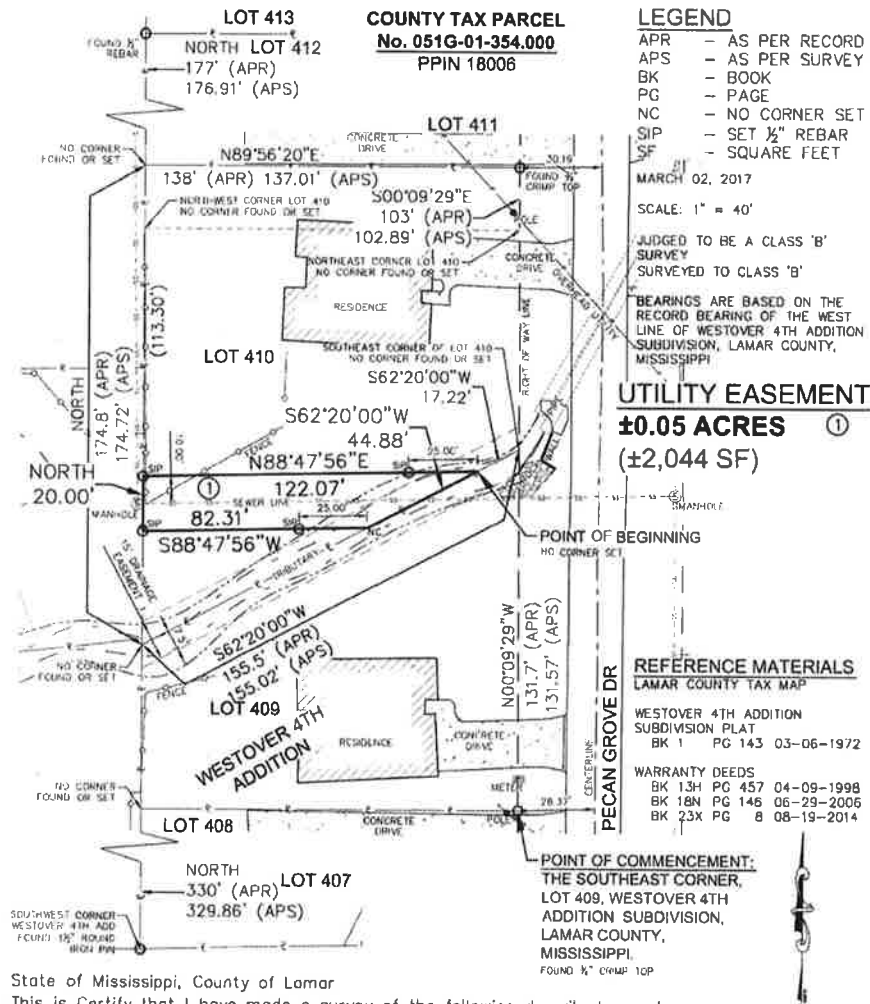
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 13, 2017

Plat Map



State of Mississippi, County of Lamar
This is Certify that I have made a survey of the following described parcel.

A 20.00 foot wide Utility Easement being described as being a part of Lot 410 of Westover Fourth Addition Subdivision, County of Lamar, State of Mississippi as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, and being more particularly described as Commencing at a 1/4 Inch Crimp Top Pin representing the Southeast Corner of Lot 409 of said Subdivision and a Point on the West Right of Way Line of Pecan Grove Drive, a paved public roadway, thence run N00°09'29"W along said West Right of Way Line for 131.57 feet to the Southeast Corner of said Lot 410 and a Point in a Tributary of Nixon's Creek, thence run S62°20'00"W along the South Line of said Lot 410 for 17.22 feet to the Point of Beginning (Witness Corner: from the Point of Beginning, run S88°47'56"W for 25.00 feet to a 1/2 Inch Rebar); thence continue S62°20'00"W along said South Lot Line for 44.88 feet (Witness Corner: from said Point, run S88°47'56"W for 25.00 feet to a 1/2 Inch Rebar), thence run S88°47'56"W for 82.31 feet to a 1/2 Inch Rebar representing a Point on the West Line of said Lot 410, thence run North along said West Lot Line for 20.00 feet to a 1/2 Inch Rebar, thence run N88°47'56"E for 122.07 feet to the Point of Beginning, comprising 0.05 Acres (2,044 Square Feet), more or less.

sdw
Engineering Progress
No. Survey Act 11411 (Miss. Code Ann. § 17-2-101) (2007) (C) 2007 SDW Engineering Progress
C:\PROJECTS\Birmingham City\051G-01-354.000 - Comprehensive Survey\Survey\051G-01-354.000_Survey.dwg, Plat, 3/2/2017 10:35:29 AM

NICHOLAS M. CONNOLLY
REGISTERED PROFESSIONAL
ENGINEER AND
LAND SURVEYOR
P.E. 12791
L.S. 2973
STATE OF MISSISSIPPI
Nicholas M. Connolly, PE, PLS
Civil Engineer No. 12791
Land Surveyor No. 2973

Photograph Addendum

Owner	Wendell Newsome				
Property Address	211A Pecan Grove Dr				
City	Hattiesburg	County		State MS	Zip Code 39402
Client	City of Hattiesburg				



View of easement area



View of Pecan Grove Drive

WAIVER VALUATION

Parcel No. 051G-01-355.000

Project No. Comswip Sewer Project Phase V

County: Lamar

Address: 211-B Pecan Grove Drive
Hattiesburg, MS 39402

Owner(s): Scott Martin

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
051G-01-355.000	\$210.00	-0-	-0-	\$210.00

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 13, 2017

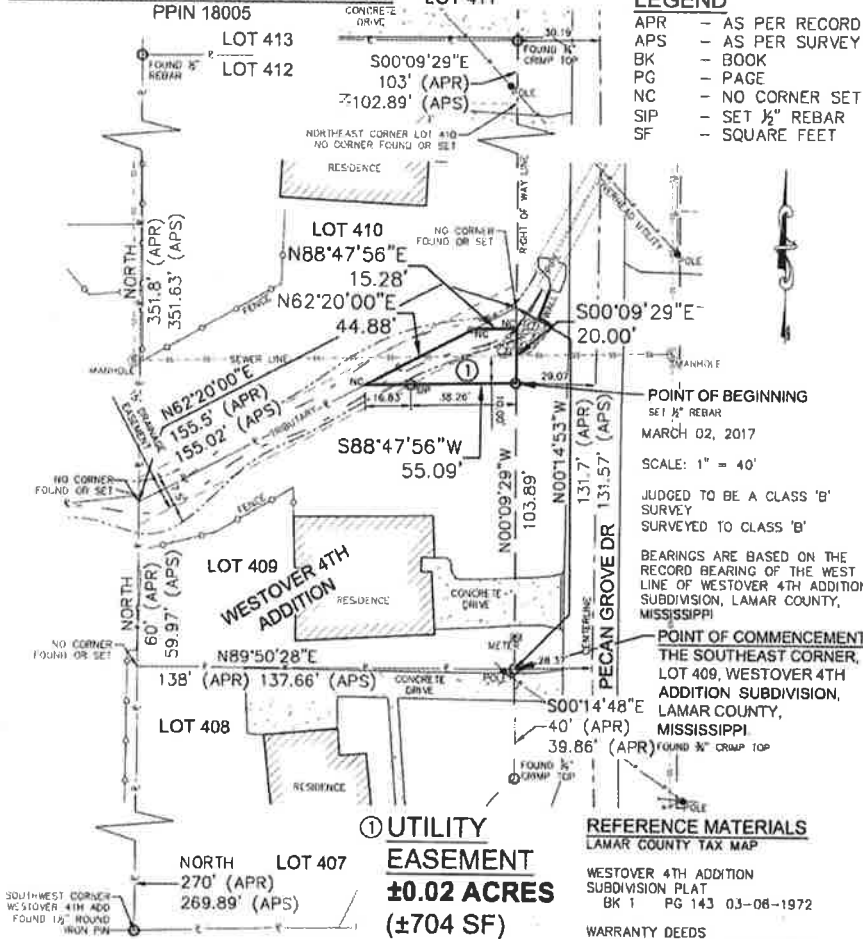
Plat Map

COUNTY TAX PARCEL No. 051G-01-355.000

LOT 411

LEGEND

APR - AS PER RECORD
APS - AS PER SURVEY
BK - BOOK
PG - PAGE
NC - NO CORNER SET
SIP - SET 1/2" REBAR
SF - SQUARE FEET



① UTILITY
EASEMENT
±0.02 ACRES
(±704 SF)

REFERENCE MATERIALS

LAMAR COUNTY TAX MAP
WESTOVER 4TH ADDITION
SUBDIVISION PLAT
BK 1 PG 143 03-08-1972
WARRANTY DEEDS
BK 13H PG 457 04-09-1998
BK 18N PG 146 06-29-2006
BK 23X PG 8 08-19-2014

State of Mississippi, County of Lamar

This is Certify that I have made a survey of the following described parcel.

A 20.00 foot wide Utility Easement being described as being a part of Lot 409 of Westover Fourth Addition Subdivision, County of Lamar, State of Mississippi as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lamar County, and being more particularly described as Commencing at a 1/4 Inch Crimp Top Pin representing the Southeast Corner of said Lot 409 and a Point on the West Right of Way Line of Pecan Grove Drive, a paved public roadway, thence run N00°09'29"W along said West Right of Way Line for 103.89 feet to a 1/2 Inch Rebar representing the Point of Beginning; thence run S88°47'56"W for 55.09 feet to a Point on the North Line of said Lot 409 and a Point in a Tributary of Mixon's Creek (Witness Corner: from the Point of Beginning, run S88°47'56"W for 38.56 feet to a 1/2 Inch Rebar), thence run N62°20'00"E along said North Lot Line for 44.88 feet, thence run N88°47'56"E for 15.28 feet to a Point on said West Right of Way Line and a Point in said Tributary, thence run S00°09'29"E along said West Right of Way Line for 20.00 feet to the Point of Beginning, comprising 0.02 Acres (704 Square Feet), more or less.

sdw
Engineering Progress
200 Second Ave. (P.O. Box 100) Jackson, MS 39201-0100
PROJECT: Hattisburg, City of (1273-500) - Comprehensive Sewer Improvements - Phase V (1273505 CAD File) (1273505, 01160131000, Survey.dwg, Plat, 3/2/2017 10:12:29 AM)

3/2/2017
NICHOLAS M. CONNOLLY
ENGINEER AND
P.E. 12791
L.S. 2973
NICHOLAS M. CONNOLLY, P.E., PLS
Civil Engineer No. 12791
Land Surveyor No. 2973

Photograph Addendum

Owner	Scott Martin				
Property Address	211B Pecan Grove Dr				
City	Hattiesburg	County		State MS	Zip Code 39402
Client	City of Hattiesburg				



View of easement area



View of Pecan Grove Drive

WAIVER VALUATION

Parcel No. 051G-01-292.001

Project No. Comswip Sewer Project Phase V

County: Lamar

Address: Madison Place Blvd
Hattiesburg, MS 39402

Owner(s): Fordham-Thompson Developemnt, LLC

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: *"...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."*

Federal regulation at 49 CFR 24.102 provides: *"...(2) An appraisal is not required if...(ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data...(A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."*

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: *"...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule..."*. Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
051G-01-292.001	\$950.00	-0-	-0-	\$950.00

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 13, 2017

A 10.00 foot wide Temporary Construction Easement being described as being a part of the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 1, Township 4 North, Range 14 West, County of Lator, State of Mississippi and being more particularly described as Commencing at a 1 $\frac{1}{2}$ Inch Round Iron Pin representing the Southwest Corner of Westover Fourth Addition Subdivision as per Map or Plat thereof on file in the Office of the Chancery Clerk of said Lator County, thence run S89°17'07"W along the South Line of said Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ for 20.00 feet to a $\frac{1}{2}$ inch Rebar representing the Point of Beginning; thence continue S89°17'07"W along said South Line for 10.00 feet to a $\frac{1}{2}$ Inch Rebar, thence run N00°17'32"E and parallel to the West Subdivision Line of said Westover Fourth Addition Subdivision for 328.98 feet to a Point in a Tributary of Mixon's Creek (Witness Corner: from said Point in Mixon's Creek Tributary run S00°17'32"W for 10.00 feet to a $\frac{1}{2}$ Inch Rebar), thence run N83°16'23"E along said Tributary for 10.08 feet (Witness Corner: from said Point of Beginning run N00°17'32"E for 320.04 feet to a $\frac{1}{2}$ Inch Rebar), thence run S00°17'32"W and parallel to said West Subdivision Line for 330.04 feet to the Point of Beginning, comprising 0.08 Acres (3,295 Square Feet), more or less.



Nicholas M. Connolly, PE, PLS
Civil Engineer No. 12791
Land Surveyor No. 2973

Photograph Addendum

Owner	Fordham-Thompson Development, LLC				
Property Address	Madison Place Blvd				
City	Hattiesburg	County		State MS	Zip Code 39402
Client	City of Hattiesburg				



View of easement area



View of Madison Place Blvd

WAIVER VALUATION

Parcel No. 052A-03-004-045

Project No. Comswip Sewer Project Phase V

County Lamar

Address: 71 J Ed Turner Rd, Hattiesburg, MS

Owner(s): Eric N. Weill

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-045	\$1,800	-0-	-0-	\$1,800

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

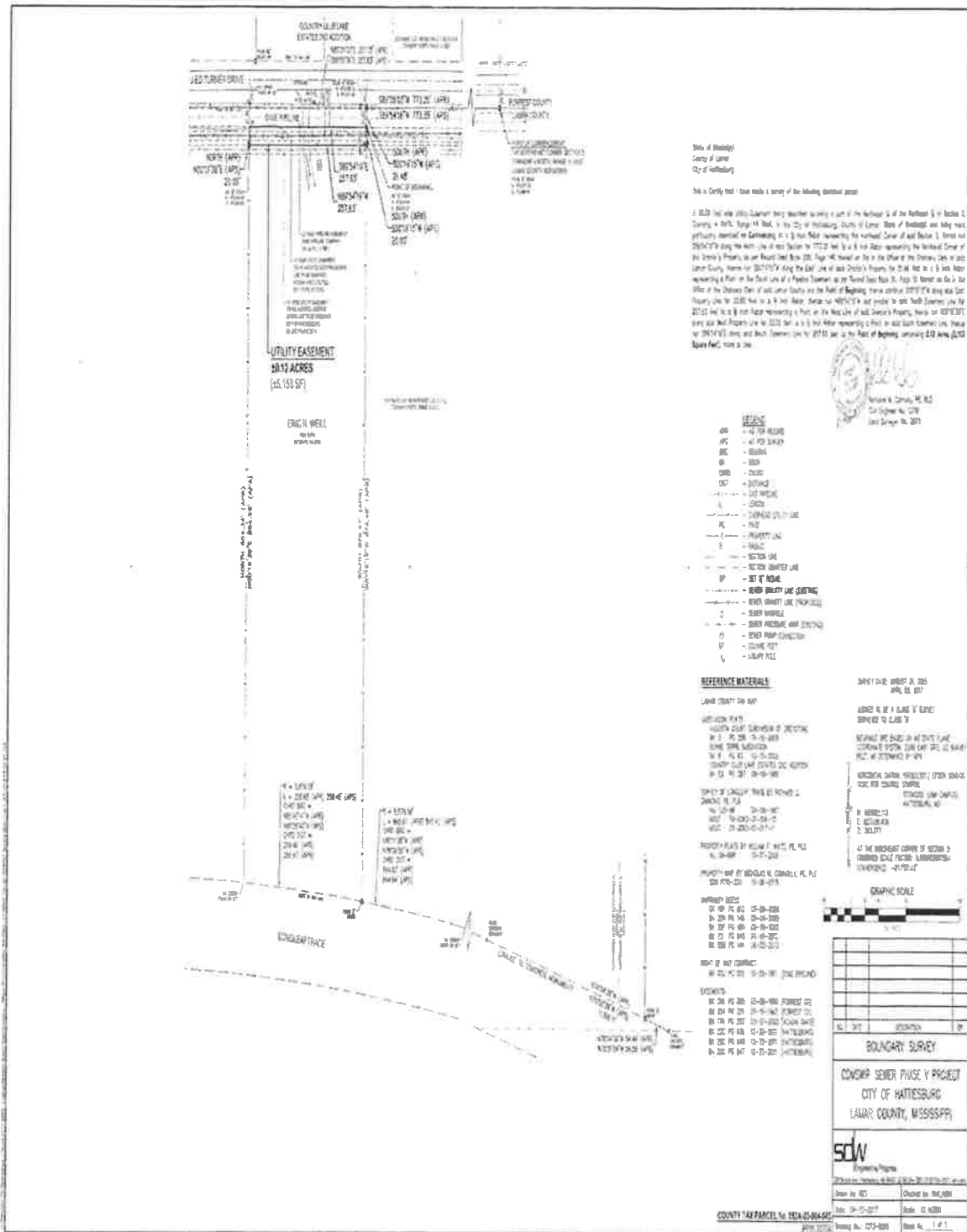
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

Plat Map



Photograph Addendum

Owner	Eric N. Weill						
Property Address	71 J Ed Turner Rd						
City	Hattiesburg	County	Lamar	State	MS	Zip Code	39402
Client	City of Hattiesburg						



Easement Area



Easement Area



J Ed Turner Drive

WAIVER VALUATION

Parcel No. 052A-03-004-049

Project No. Comswip Sewer Project Phase V

County Lamar

Address: 79 J Ed Turner Rd, Hattiesburg, MS

Owner(s): Regina Lee

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-045	\$1,800	-0-	-0-	\$1,800

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

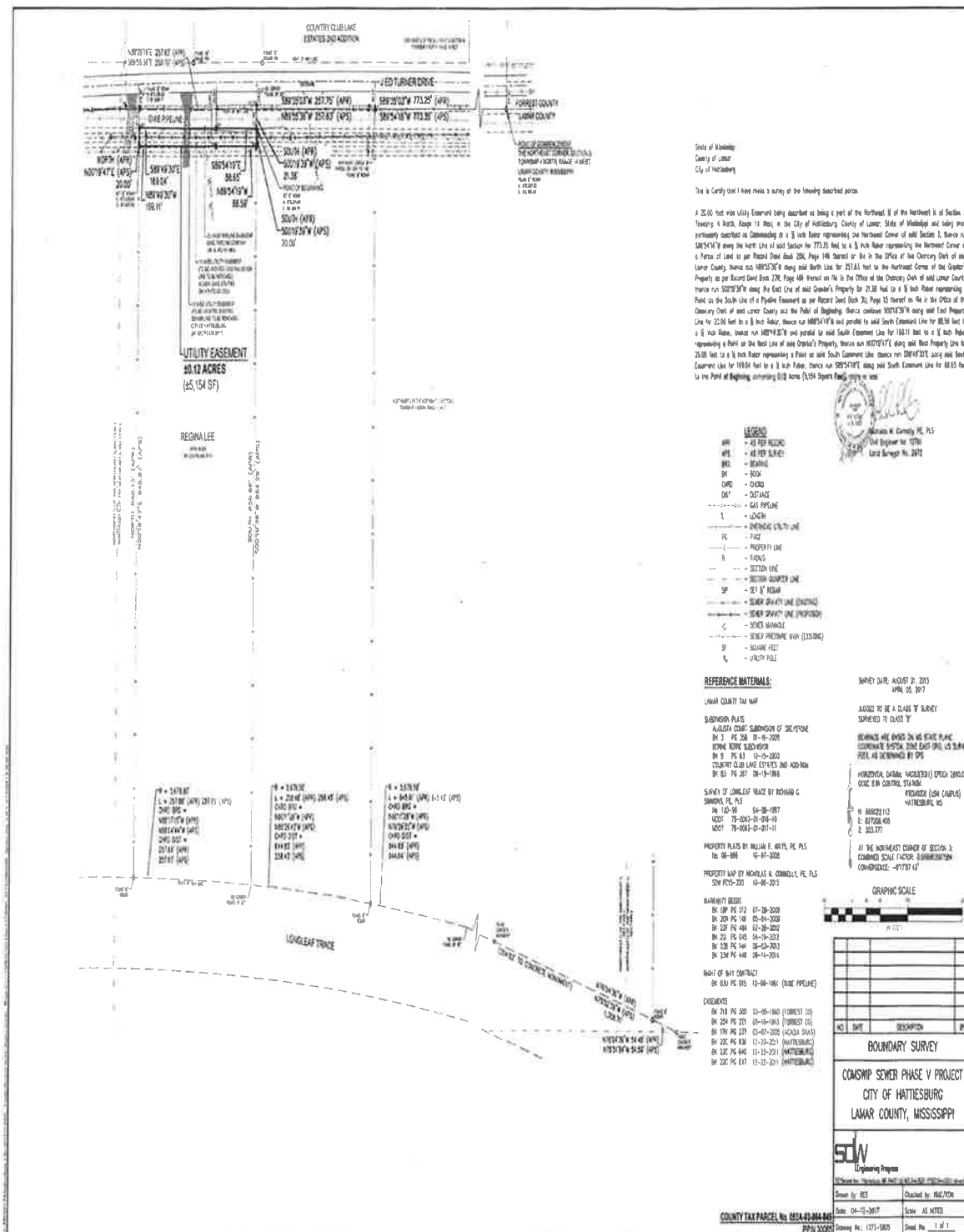
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

Plat Map



Photograph Addendum

Owner	Regina Lee					
Property Address	79 J Ed Turner Rd					
City	Hattiesburg	County	Lamar	State	MS	Zip Code 39402
Client	City of Hattiesburg					



Easement Area



Easement Area



J Ed Turner Drive

WAIVER VALUATION

Parcel No. 052A-03-004-047

Project No. Comswip Sewer Project Phase V

County Lamar

Address: 85 J Ed Turner Rd, Hattiesburg, MS

Owner(s): Wesley Hester

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

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Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-047	\$600	-0-	-0-	\$600

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

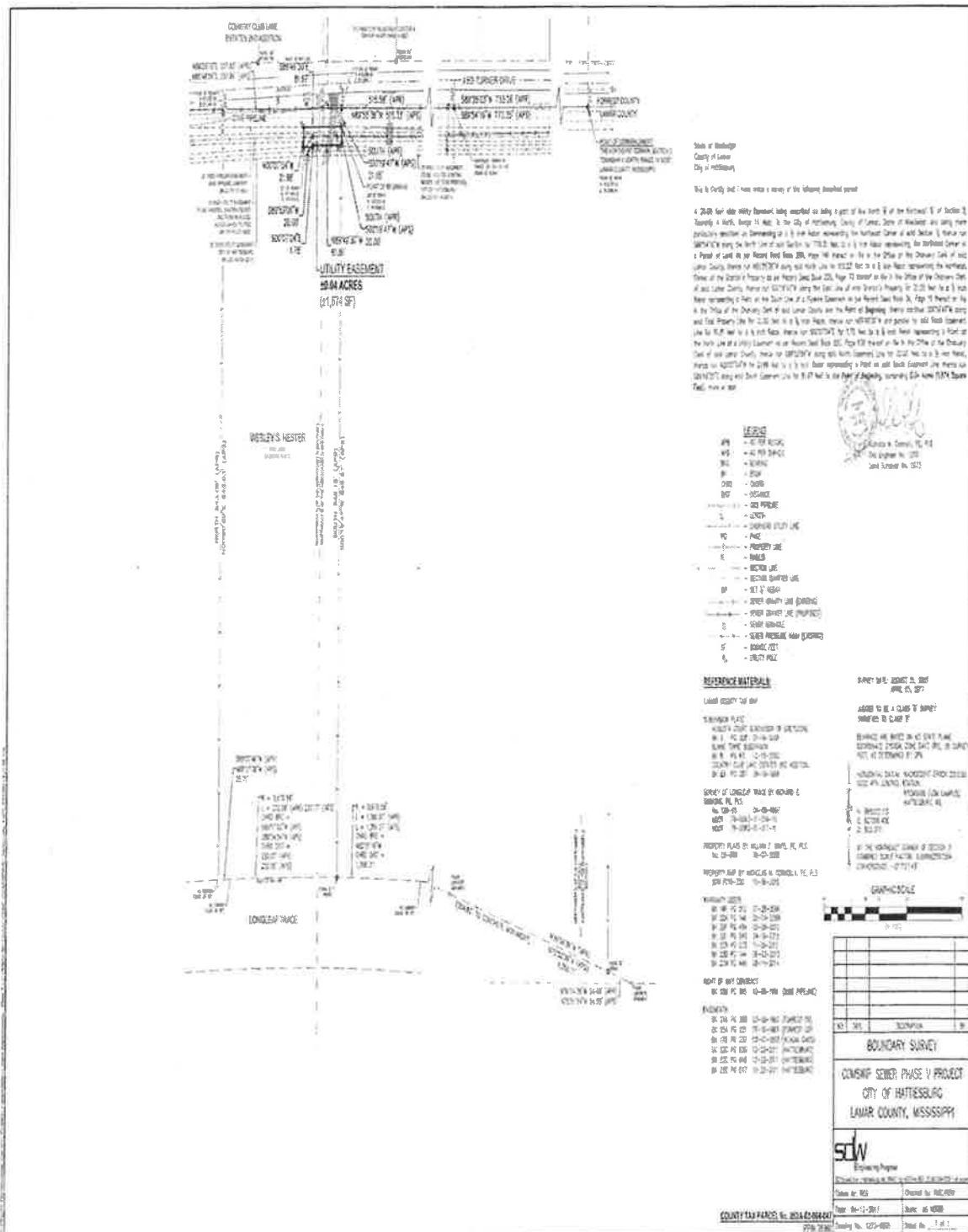
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

Plat Map



Photograph Addendum

Owner	Wesley Hester					
Property Address	85 J Ed Turner Rd					
City	Hattiesburg	County	Lamar	State	MS	Zip Code 39402
Client	City of Hattiesburg					



Easement Area



Easement Area



J Ed Turner Drive

WAIVER VALUATION

Parcel No. 052A-03-004-048

Project No. Comswip Sewer Project Phase V

County Lamar

Address: 123 J Ed Turner Rd, Hattiesburg, MS

Owner(s): John & Krista Eye

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

Federal regulation at 49 CFR 24.102 provides: "... (2) An appraisal is not required if... (ii) The Agency determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data... (A) When an appraisal is determined to be unnecessary, the Agency shall prepare a waiver valuation."

Under authority of the Mississippi Code 43-37-3, to adopt procedures in compliance with federal regulations, and per 49 CFR 24.102, Appendix A: "...Waiver valuations are not appraisals as defined by the Uniform Act and these regulations" [42 U.S.C. 4601, et seq., and 49 CFR Part 24]; "therefore, appraisal performance requirements or standards, regardless of their source, are not required for waiver valuations by this rule...". Therefore, pursuant to federal regulation and state law, the valuation reported in this document was performed under the allowances specified in the Jurisdictional Exception Rule of the Uniform Standards of Professional Appraisal Practice.

Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-048	\$300	-0-	-0-	\$300

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

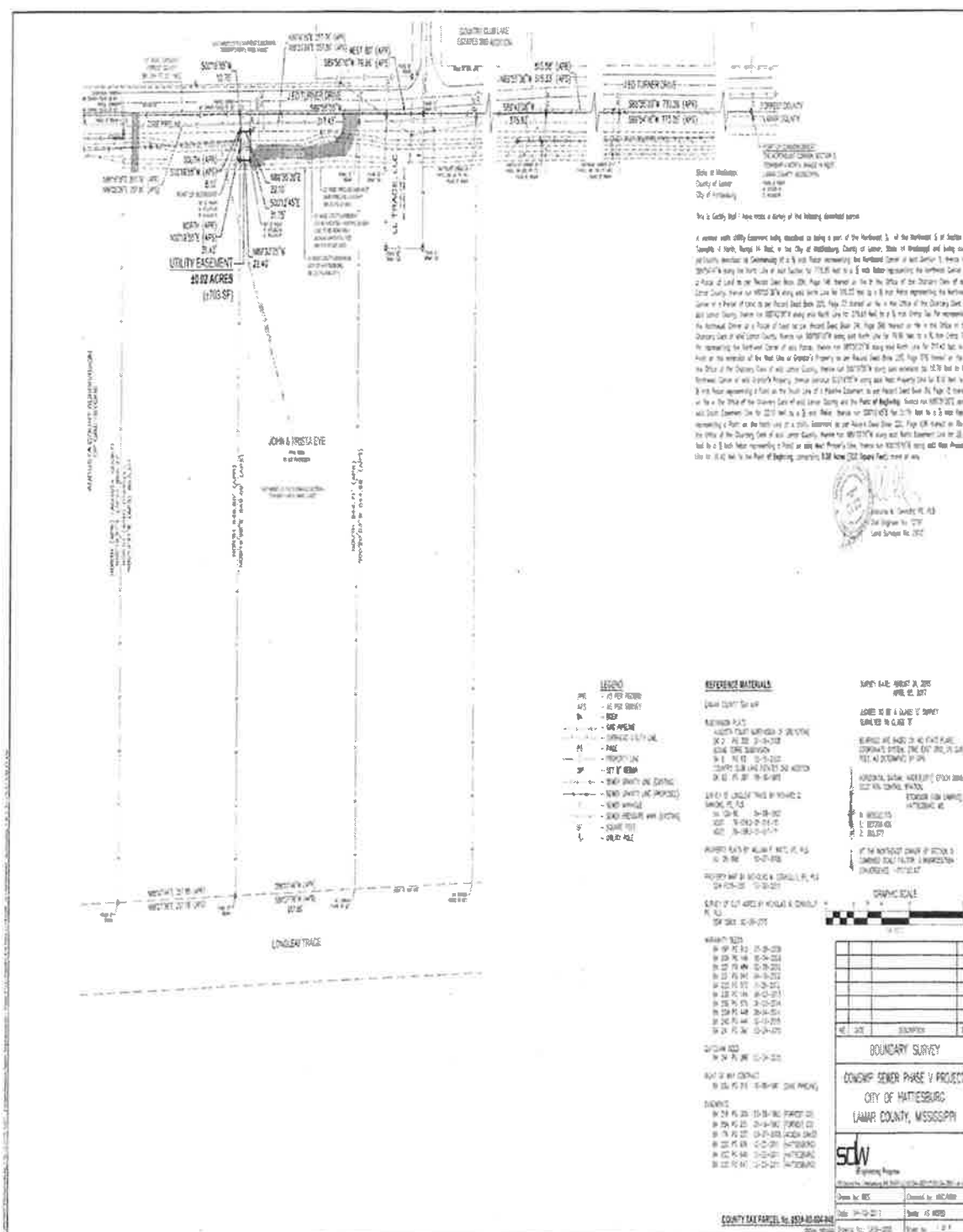
I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

Plat Map



Photograph Addendum

Owner	John & Krista Eye					
Property Address	123 J Ed Turner Rd					
City	Hattiesburg	County	Lamar	State	MS	Zip Code 39402
Client	City of Hattiesburg					



Easement Area



Easement Area



J Ed Turner Drive

APPRAISAL OF PROPERTY AT

131 J ED TURNER DRIVE

HATTIESBURG, MS

LIGHTSEY & ASSOCIATES

P.O. Box 15489
Hattiesburg, MS 39404
(601) 584-6260

June 8, 2017

Mr. Lamar Rutland
City of Hattiesburg
P.O. Box 1898
Hattiesburg, MS 39403

RE: Appraisal of property at 131 J Ed Turner Drive,
Hattiesburg, MS

Dear Mr. Rutland:

In accordance with the your request, I have made an inspection and investigation of the property located 131 J Ed Turner Drive, Hattiesburg, Mississippi, for the purpose of forming an opinion of the Market Value, in fee simple, as of June 7, 2017, the effective date of the appraisal being the date the subject property was last inspected. The value opinion is both before and after the taking of a sewer easement by the City of Hattiesburg and noting damages to the remainder, if any. In the case of the subject property, this easement will consist of 0.17 acre or 7,601 square feet.

Market Value is defined as the most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the property will sell in an open and competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self interest, and assuming that neither is under undue duress.

NEIGHBORHOOD DESCRIPTION

The subject property is on J Ed Turner Drive, inside the city limits of Hattiesburg in what is known as the Country Club area, west of Highway 49 and north of West 4th Street. The general area contains a wide age range of properties that are mainly residential in nature, being mainly single-unit dwellings. The subject area has been annexed into the City of Hattiesburg in the past several years. There are several newer dwellings located along J Ed Turner Drive. The subject is in relative close proximity to the public schools, shopping and employment centers, and medical facilities. Homes in proximate market segment range in price from approximately \$100,000 to above \$1,000,000. This has been a stable residential area for a number of years and this trend appears likely to continue in the foreseeable future.

SITE DESCRIPTION

The subject site is located on the southerly side of J Ed Turner Drive, just south of the Hattiesburg Country Club. It has a frontage of approximately 257.77 feet on J Ed Turner Drive and extends to a depth of approximately 850 feet to the Longleaf Trace, which borders the site on its southerly side. The site is generally rectangular in shape and contains approximately 5 acres. The majority of the site appears to be at or above street grade. The property does not appear to lie in a designated flood area. All public utilities are connected or available to the site. A survey is included in the addenda of this report in order to assist the reader in visualizing the property. There were no adverse soil or subsoil conditions observed; however, no soil tests have been made as a part of this report. The property is zoned R-1A, Single Family Residential, by the zoning authorities of the City of Hattiesburg. The City of Hattiesburg intends to take a sewer easement of 0.17 acre, or 7,601 square feet along the subject road frontage. After the taking of this easement, access and utility will remain essentially the same, thus, in the appraiser's opinion, there will be no damages to the remainder property.

IMPROVEMENTS DESCRIPTION

There is a large, high quality dwelling that has recently been constructed on the subject site. This dwelling is well removed from the acquisition area and will suffer no damages from the taking. Thus, it is given no consideration in this appraisal.

PROPERTY HISTORY

According to tax assessor's records and MLS # 93408 (Coldwell Banker) the subject site was purchased by the present owner on 02/12/2015. The reported price was \$74,000. The subject property is not known to be listed for sale nor under contract. Research of the market indicates that marketing/exposure time in the area is typically 120-180 days.

TAXES

The total taxes for the subject property for 2016 are \$22.97. The total true value (tax value) of the property is \$900.00 with an assessed value of \$135.00. According to the Lamar County Tax Assessor, all taxes due on the property have been paid in full. These taxes are for land only. The tax assessor has yet to add the dwelling to the tax rolls.

HIGHEST AND BEST USE

In order to estimate the Highest and Best Use of the subject, the surrounding property uses as well as the four tests of Highest and Best Use were considered. These are 1)physically possible, 2)legally permissible, 3)financially feasible, and 4)maximally productive. After considering these factors, the Highest and Best Use of the property, as vacant, is estimated to be for a single-unit residential house site. The Highest and Best Use of the property as presently improved is estimated to be for use as a single-unit dwelling.

INTENDED USE AND SCOPE OF THE APPRAISAL

This appraisal is intended to assist the client, Mr. Lamar Rutland of the City of Hattiesburg, in forming an opinion of value of the subject property, both before and after the taking of an easement for a sewer project. In preparing this appraisal, the appraiser inspected the subject site; gathered information on comparable lot sales and listings, confirmed and analyzed the data and applied the Sales Comparison Approach to value. As only the subject land is being considered in this appraisal, this was the only approach deemed applicable to the subject's valuation.

APPRAISAL PROCESS

In good appraisal practice, three approaches to value are normally used to arrive at a value conclusion for a given property. These approaches are the Sales Comparison Approach, the Cost Approach, and the Income Approach. The Sales Comparison Approach is based on deriving a value indication by comparing properties that have been sold recently to the subject property and adjusting the sales price of the comparables for any basic differences. The Income Approach considers the present value of the future benefits of income and ownership. To estimate the income potential of the subject, comparable rents are obtained and reconciled to the subject, then a deduction is made for anticipated expenses. The resulting net income is then capitalized into value using a rate supported by market data. The Cost Approach provides a value indicator based on the cost to reproduce the improvements less any observed depreciation. The value estimate of the land developed through the Sales Comparison Approach is then added to the depreciated value estimate of the Improvements. As noted above, the appraiser has utilized the Sales Comparison Approach as the subject land is all that is under consideration in this appraisal.

LOT SALES

The following vacant lot sales were utilized to arrive at an opinion of value for the subject property.

LOT SALE NO. 1

Location: Lot 2, J Ed Turner Drive, Hattiesburg
Date: 05/23/2014
Price: \$74,900
Size: 5 acres
Price/Acre: \$14,980
Confirmation: MLS # 93409/Coldwell Banker
Comments: Located adjacent to the subject.

LOT SALE NO. 2

Location: Lot 3, J Ed Turner Drive, Hattiesburg
Date: 03/20/2015
Price: \$76,900
Size: 5 acres
Price/Acre: \$15,380
Confirmation: MLS # 93410/Coldwell Banker
Comments: Located two lots east of the subject.

LOT SALE NO. 3

Location: Lot 5, J Ed Turner Drive, Hattiesburg

Date: 08/12/2014

Price: \$72,000

Size: 5 acres

Price/acre: \$14,400

Confirmation: MLS # 93411/Coldwell Banker.

Comments: Located four lots east of the subject.

The above lot sales indicate an unadjusted range in value from \$14,400 to \$15,380 per acre. All are in the subject market segment on the subject street and occurred within the past three years. Research of the market found these sales to be the most recent and relevant to the subject's valuation. After considering time, size, location, topography, and other pertinent factors, the value opinion of the subject site is \$15,000 per acre. Thus the value of the subject is:

Before Value

5 acres @ \$15,000 = \$75,000

After Value

4.83 acres @ \$15,000 = \$72,450

Value Before Taking	\$75,000.00
Value After Taking	72,450.00
Damages	-0-
Just Compensation Due Owner	\$ 2,550.00

The just compensation is the difference in the "before" value and the "after" value, including damages, if any. In the case of the subject property, there were no damages to the remainder.

I appreciate the opportunity to prepare this appraisal report for you. Should you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely

Stan Lightsey

Stan Lightsey, SRA
Appraisal Institute

ADDENDA

APPRAISER'S CERTIFICATION

I certify that, to the best of my knowledge and belief:

- the statements contained in this report are true and correct.
- the reported analyses, opinions, and conclusions are limited only by the reporting assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of this report, and I have no personal interest with respect to the parties involved unless otherwise stated.
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- my engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation for completing this assignment is not contingent upon the developing or reporting of a predetermined value or a direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- no one provided significant appraisal assistance to the person signing this appraisal unless otherwise noted.
- unless otherwise noted, the person signing this report has not performed an appraisal or rendered any other service regarding the subject property in the past three years.
- The Appraisal Institute conducts a voluntary re-certification process for its designated members. I am currently certified under this program.

Stan Lightsey

Stan Lightsey, SRA

UNDERLYING ASSUMPTIONS AND LIMITING CONDITIONS

This appraisal is subject to the following limiting conditions:

The legal description furnished is assumed to be correct.

No responsibility is assumed for matters of a legal character nor does the appraiser render any opinion as to title which is assumed to be good. All existing liens and encumbrances have been disregarded unless otherwise noted and the property is appraised as though free and clear and under responsible ownership and competent management.

The appraiser believes to be accurate the information provided by others; but assumes no responsibility for its accuracy.

Possession of this report, or a copy thereof, does not carry with it the right of publication, and neither all nor any part of the contents of this report may be disseminated to the public through media of any type nor may be used for any other purpose other than that specified in the engagement by the client without the previous written consent of the appraiser and client particularly as to the value conclusions, the identity of the appraiser or the firm with which he is employed, or to the SRA designation of The Appraisal Institute.

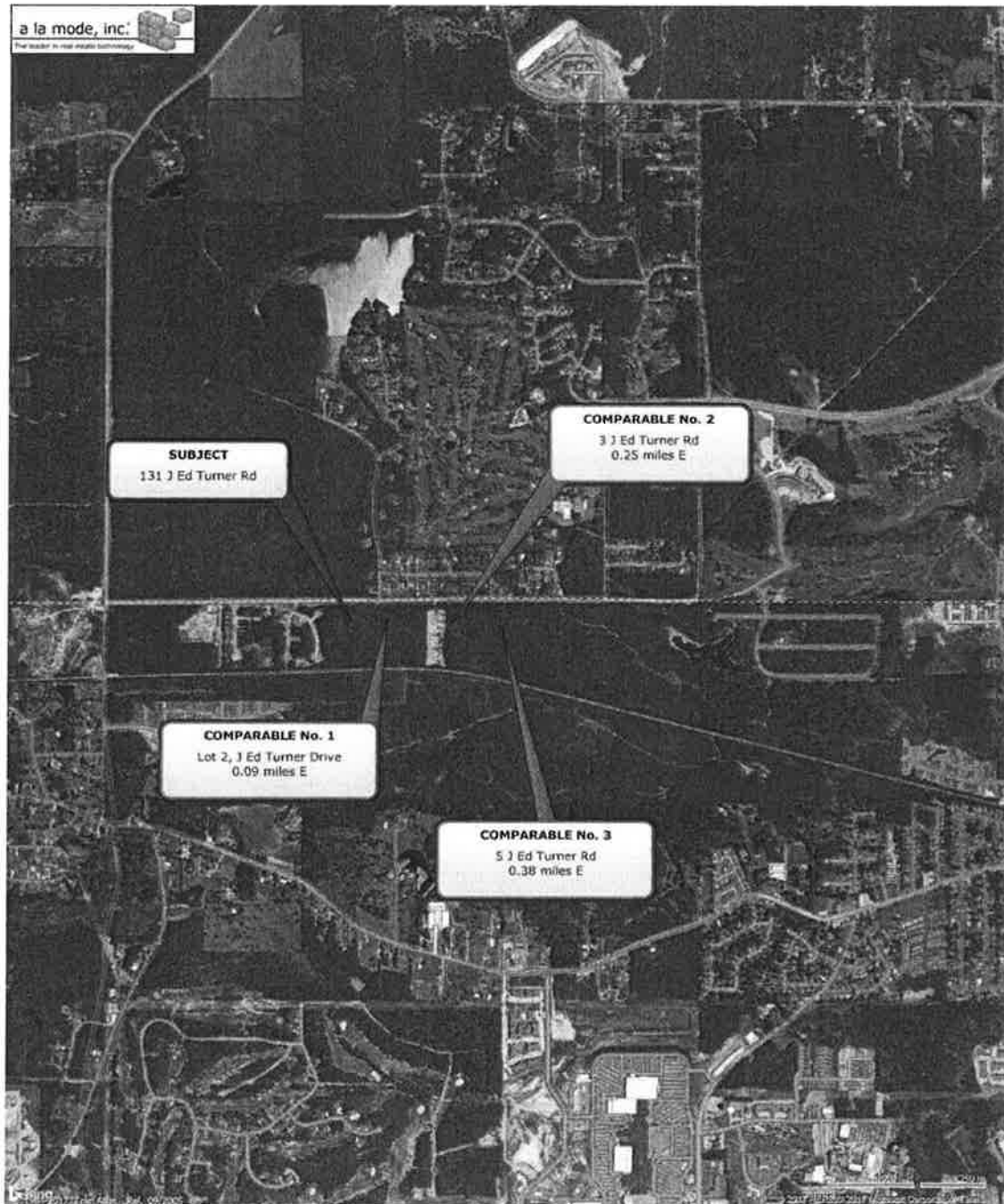
The appraiser will not be required to give testimony or appear in court by reason of this appraisal, with reference to the property in question, unless prior arrangements have been made.

The distribution of the total valuation in this report between land and improvements applies only under the existing program of utilization. The separate valuations for land and improvements must not be used in conjunction with any other appraisal and are invalid if so used.

Unless otherwise stated in this report, the existence of hazardous substances, including but not limited to asbestos, poly-chlorinated biphenyls, petroleum leakage, mold, or agricultural chemicals; which may or may not be present on the property, or other environmental conditions; were not called to the attention of nor did the appraiser become aware of such during the inspection of the property. The appraiser has no knowledge of the existence of such materials on or in the property unless otherwise stated. The appraiser is not an expert in the environmental field and is not qualified to test for such substances or conditions. If the presence of hazardous substances or environmental conditions may affect the value of the property, the value opinion is predicated on the assumption that there is no such condition in or on the property or in such proximity thereto that it would cause a loss in value. No responsibility is assumed for such conditions; nor for any expertise or knowledge required to discover them. The client is advised to retain an expert in the field of environmental impact on real estate if such conditions are suspected.

Location Map

Owner	Brent Bevard				
Property Address	131 J Ed Turner Rd				
City	Hattiesburg	County	Forrest	State	MS Zip Code 39402
Client	City of Hattiesburg				



Flood Map

Owner	Brent Bevard				
Property Address	131 J Ed Turner Rd				
City	Hattiesburg	County	Forrest	State	MS Zip Code 39402
Client	City of Hattiesburg				

InterFlood by a la mode

Prepared for: Lightsey and Associates

131 J Ed Turner Rd

Hattiesburg, MS 39402



MAP DATA

FEMA Special Flood Hazard Area: No
Map Number: 2803SC00850
Zone: X
Map Date: March 02, 2010
FIPS: 28073

MAP LEGEND

- | | |
|--------------------------------------|-----------------|
| Areas inundated by 500-year flooding | Protected Areas |
| Areas inundated by 100-year flooding | Floodway |
| Velocity Hazard | Subject Area |

Powered by CoreLogic

[illegible]

Tax Data

Delta Computer Systems

Page 1 of 1

Lamar County Mississippi

Powered by:
Delta Computer Systems, Inc.

Property Link

LAMAR COUNTY, MS

Current Date 6/7/2017

Tax Year 2016

Records Last Updated 6/6/2017

PROPERTY DETAIL

OWNER BEVARD BRENT D ACRES : 5.00
76 CLASSIC DR LAND VALUE : 900
HATTIESBURG MS 39402 IMPROVEMENTS : **NA**
TOTAL VALUE: 900
ASSESSED : 135

PARCEL 052A-03-004.050

ADDRESS 131 J ED TURNER DR

TAX INFORMATION

YEAR 2016	TAX DUE	PAID	BALANCE
COUNTY	7.56	7.56	0.00
CITY	6.77	6.77	0.00
SCHOOL	8.64	8.64	0.00
TOTAL	22.97	22.97	0.00

LAST PAYMENT DATE 2/2/2017

MISCELLANEOUS INFORMATION

EXEMPT CODE LEGAL APOT NW 1/4 NE 1/4
HOMESTEAD CODE None B 024G P 446 02/13/2015
TAX DISTRICT 0616
PPIN 036351
SECTION 03
TOWNSHIP 04N
RANGE 14W
Book 024G Page 446

PURCHASE COUNTY TAX SALE FILES

TAX SALES HISTORY, FOR UNPAID TAXES

Year	Sold To	Redeemed Date/By
NO TAX SALES FOUND		



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<http://www.deltacomputersystems.com/cgi-lrm5/LRMCIGI02?HTMCNTY=MS37&HTMB...> 6/7/2017

Photograph Addendum

Owner	Brent Bevard				
Property Address	131 J Ed Turner Rd				
City	Hattiesburg	County	Forrest	State	MS Zip Code 39402
Client	City of Hattiesburg				



Easement Area



Easement Area

Photograph Addendum

Owner	Brent Bevard				
Property Address	131 J Ed Turner Rd				
City	Hattiesburg	County	Forrest	State	MS Zip Code 39402
Client	City of Hattiesburg				



J Ed Turner Drive

QUALIFICATIONS OF STAN LIGHTSEY, SRA

EDUCATION COMPLETED:

University of Southern Mississippi, B.S. Degree, 1974

Appraisal Institute:

The Future of Appraising, 1996
Highest and Best Use Applications, 1996
Environmental Issues, 1996
Appraising & the Internet, 1996
Litigation Skills, 1997
Attacking & Defending an Appraisal in Litigation, 1999
Appraising Partial Interests, 2000
Appraisal of Nonconforming Properties, 2000
Subdivision Analysis, 2001
Course 430, 2001
Special Purpose Properties, 2002
The Technology Assisted Appraiser, 2003
Course 400, 2003
Complex Residential Properties, 2004
Mathematically Modeling Real Estate Data, 2004
Professional's Guide to the URAR, 2005
Residential Sales Comparison Approach, 2005
USPAP Update, 2005
Appraising Environmentally Contaminated Properties, 2006
Appraising Manufactured Housing, 2007
Convenience Stores and Retail Fuel Concessions, 2008
Declining Markets and Sales Concessions, 2008
New Residential Market Conditions Form, 2009
Business Practices and Ethics, 2009
Appraising Distressed Commercial Real Estate, 2009
Market Conditions, 2009
Analyzing the Effects of Environmental Contamination on Real Property, 2010
USPAP Update, 2011
Quality Assurance in Residential Appraisals, 2011
The Lending World in Crisis, 2012
Curriculum Overview, 2013
Business Practice and Ethics, 2014
Supervising Appraisal Trainees, 2014
USPAP Update, 2014
Data Verification-2015
Appraising Convenience Stores-2015
New Technology for Appraisers-2016
Eminent Domain & Condemnation-2017
USPAP Update-2017

MEMBERSHIPS AND APPOINTMENTS:

SRA, The Appraisal Institute

SRA Admissions Committee, The Appraisal Institute

Assistant Regional Member, Review & Counseling Division, the Appraisal Institute

Offices held in Mississippi Chapter of Appraisal Institute:

President-1994

Vice President-1993

Secretary-1992

Director-Three separate terms, last ending in 2017

EMPLOYMENT HISTORY:

Spencer Murphree 1977-1979

Jack Gieger & Associates 1979-1984

Lightsey & Associates 1984-Present

PARTIAL CLIENT LIST:

BancorpSouth Bank

Regions Bank

Hancock Bank

Priority One Bank

Citizens' Bank

FNMA

City of Hattiesburg

City of Columbia

FDIC

Navy Federal Credit Union

Bankplus

University of Southern Mississippi

Forrest General Hospital

Prudential

Forrest County, MS

Jeff Davis County, MS

U. S. Dept. of Justice

Ashland

The First, ANBA

Great Southern National Bank

Trustmark National Bank

Community Bank

First Southern Bank

FHLMC

City of Petal

City of Lumberton

MDOT

Keesler Federal Credit Union

Georgia Pacific

William Carey University

Hattiesburg Clinic

Cartus Corp.

Lamar County, MS

Pearl River County, MS

FBI

Qualified as expert witness in Special Courts of Eminent Domain, County Courts, Circuit Courts, Chancery Courts, and Federal District Court.

WAIVER VALUATION

Parcel No. 052A-03-004-046

Project No. Comswip Sewer Project Phase V

County Lamar

Address: J Ed Turner Road, Hattiesburg, MS

Owner(s): Leslie Rutland

I, Stan Lightsey, a certified appraiser in the State of Mississippi, acknowledge that I have sufficient understanding of the local real estate market where the subject property is located, have reviewed the construction plans for the above referenced project, and have researched sales and market data that would be relevant to the above referenced property.

The valuation contained in this report is prepared pursuant to statutory authorization by the Mississippi Code, 43-37-3: "...the acquiring...agency...may adopt a procedure in compliance with federal regulations to waive the appraisal in cases involving the acquisition by sale or donation of a property with a low fair market value. For purposes of this chapter, property with a low fair market value is property with a fair market value of ten thousand dollars, (\$10,000) or less..."

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Summary and Allocation of compensation of All Interests: (All interests, Q interest, Easements, Warranty, etc)				
Parcel No.	Land	Improvements	Damages	Total
052A-03-004-046	\$4,500	-0-	-0-	\$4,500

I certify to the best of my knowledge and belief:

The statement I have provided in this report are true and correct.

I have no present or prospective interest in the property valued and no personal interest nor bias with respect to the parties involved.

Any decrease or increase in the fair market value of the real property prior to the date of valuation caused by the public improvement for which such property is to be acquired, or by the likelihood that the property would be acquired for such improvement, other than that due to physical deterioration within the reasonable control of the owner, was disregarded in determining the compensation for the property.

Preparer of Valuation Stan Lightsey
Stan Lightsey

Date: June 8, 2017

[illegible]

Photograph Addendum

Owner	Leslie Rutland					
Property Address	J Ed Turner Rd					
City	Hattiesburg	County	Lamar	State	MS	Zip Code 39402
Client	City of Hattiesburg					



Easement Area



Easement Area



J Ed Turner Drive