

**Town of Thompson's Station
Board of Mayor and Aldermen
Remote Meeting Agenda 7:00 p.m.
March 9, 2021**

Meeting Called To Order

Consent Agenda

A. Approval To Conduct This Meeting By Electronic Means Which Is Necessary To Protect The Public Health, Safety, And Welfare Of Tennesseans In Light Of The COVID-19 Outbreak (Pursuant To Executive Order No. 78).

Documents:

[ITEM A - BOMA INTRODUCTION STATEMENT FOR MAR 2021.PDF](#)

B. Consideration Of The Minutes Of The February 9, 2021 Regular Meeting.

Documents:

[ITEM B - BOMA MINUTES 02_9_2021.PDF](#)

C. Consideration Of Joshua Mayo For Vacant UB Position.

Documents:

[ITEM C - UB INTEREST FORM APPLICANT JOSHUA MAYO.PDF](#)

Announcements/Agenda Requests

Unfinished Business:

1. Approve On Second Reading Ordinance 2021-005: An Ordinance Of The Town Of Thompson's Station, Tennessee To Amend Ordinance Nos. 07-016 And 10-007 And Title 18, Chapter 2 Of The Thompson's Station's Municipal Code Regarding Wastewater System User Rates:

Documents:

[ITEM 1 - ORDINANCE 2021-005 TO AMEND ORDINANCE NO. 07-016, 10-007 AND CODE 18-203 RE WASTEWATER SYSTEM USER RATES 2.9.21.PDF](#)

New Business:

2. Approve Resolution 2021-006: A Resolution Of The Town Of Thompson's Station, Tennessee To Approve Contract For Low Bidder For The Relocation Of Wastewater Utility Lines Along A Portion Of Critz Lane And A Contract With Hughes Excavating For The Critz Lane Utility Relocation:

Documents:

[ITEM 2 - RESOLUTION 2021-006 APPROVING CONTRACT FOR LOW BIDDER FOR RELOCATION OF WASTEWATER UTILITY LINES ALONG A PORTION OF CRITZ LANE.PDF](#)
[ITEM 2 - CRITZ LANE CONSTRUCTION DRAWINGS.PDF](#)
[ITEM 2 - CRITZ LANE PROJECT MANUAL](#)

3. Approve Resolution 2021-005: A Resolution Of The Town Of Thompson's Station, Tennessee Approving The Subscription Agreement With IDT Plans, LLC:

Documents:

ITEM 3 - RESOLUTION 2021-005 APPROVING SUBSCRIPTION AGREEMENT WITH IDT PLANS LLC.PDF
ITEM 3 - IDT MEMO.PDF
ITEM 3- IDT QUOTE.PDF
ITEM 3 - CONTRACT IDT SERVICE AGREEMENT.PDF

4. Acknowledgement Of Transfer, Assignment And Assumption Of Phase 16 (B) Of The Tollgate Village Development From MBSC TN Homebuilder, LLC To Phillips Builders, LLC And Confirmation Of Entity Ownership And Responsibility For Phase 16 (B):

Documents:

ITEM 4 - ACKNOWLEDGMENT OF TRANSFER ASSIGNMENT AND ASSUMPTION BY PHILLIPS FROM MBSC OF 16 A WITH EXHIBIT NO 1 - 2-9-21.PDF
ITEM 4 - ACKNOWLEDGEMENT OF TRANSFER ASSIGNMENT AND ASSUMPTION - MBSC - PHILLIPS (RED-LINED) 2.9.21.PDF

5. Approve Resolution No. 2021-001: A Resolution Of The Town Of Thompson's Station, Tennessee Of The Acknowledgement Of The Transfer, Assignment And Assumption Related To Section 16 (B) Of The Tollgate Village Development As To MBSC TN Homebuilder, LLC, And Phillips Builders, LLC And Confirmation Of Entity Ownership And Responsibility:

Documents:

ITEM 5 - RESOLUTION 2021-001 APPROVE THE ACKNOWLEDGEMENT OF THE TRANSFER ASSIGNMENT ASSUMPTION OF PH16B MSBC TO PHILLIPS BUILDERS LLC 2_9_21.PDF

6. Approval Of First Reading Of Ordinance 2021-006: An Ordinance Of The Town Of Thompson's Station, Tennessee To Amend Title 8, Chapter 1 Of The Thompson's Station's Municipal Code Regarding Beer.

Documents:

ITEM 6 - ORDINANCE 2021-006 BEER TO AMEND TITLE 8 CHAPTER 1 OF THE TOWN OF THOMPSONS STATION MUNICIPAL CODE.PDF

Adjourn

Information Only:

Documents:

BOMA FINANCE REPORT THRU 02-28-2021.PDF
THOMPSONS_STATION_PROJECT_STATUS_MAR2021.PDF

This meeting will be held remotely due to the Public Health Emergency related to

COVID-19 & will be live-streamed via our website at www.thompsons-station.com

STATEMENT FOR THE RECORD AT START OF MEETING
Thompson's Station Board of Mayor and Aldermen

Hello and welcome to this the March 9, 2021, Board of Mayor and Alderman meeting for the Town of Thompson's Station.

Pursuant to the Guidance from the Office of the Comptroller for the State of Tennessee and in accordance with Governor Lee's Executive Order # 78 (which was previously extended by Executive Order # 16, 34, 51, 60, 65 and 71): due to the treatment and containment of COVID-19.

This Town of Thompson's Station Board of Mayor and Alderman meeting, with notice, is being held virtually and being recorded to protect the public health, safety, and welfare of the Citizens of Thompson's Station in light of the coronavirus and to continue to allow the Town to function and operate.

Further, it is the desire of the Board of Mayor and Alderman to include this determination in the minutes for this meeting.

We understand that we, the Thompson's Station Board of Mayor and Alderman, serves the Town of Thompson's Station, which is why we are currently recording this virtual meeting, broadcasting it live for public viewing and uploading and preserving it for future viewing.

**Town of Thompson's Station
Board of Mayor and Aldermen
Remote Meeting Minutes
February 9, 2021 7:00 p.m.**

Call to Order:

The virtual meeting of the Board of Mayor and Alderman of the Town of Thompson's Station was called to order at 7:00 p.m. on February 9, 2021 with the required quorum. The following statement was read by Mayor Napier:

Pursuant to the Guidance from the Office of the Comptroller for the State of Tennessee and in accordance with Governor Lee's Executive Order No. 71 (which was previously extended by Executive Orders Nos. 16, 34, 51, 60 and 65):

This Town of Thompson's Station Board of Mayor and Alderman meeting, with notice, is being held virtually and being recorded to protect the public health, safety, and welfare of the Citizens of Thompson's Station in light of the coronavirus and to continue to allow the Town to function and operate.

Further, it is the desire of the Board of Mayor and Alderman to include this determination in the minutes for this meeting.

We understand that we, the Thompson's Station Board of Mayor and Alderman, serves the Town of Thompson's Station, which is why we are currently recording this virtual meeting, broadcasting it live for public viewing and uploading and preserving it for future viewing.

A recording of this meeting will be available on the Town of Thompson's Station's web site at thompsons-station.com within 24 hours of this meeting. Members and staff participating remotely were: Mayor Corey Napier, Alderman Shaun Alexander; Alderman Brandon Bell; Alderman Brian Stover; Alderman Andrew Zinn; Town Administrator Ken McLawhon; Finance Director Steve Banks; Planning Director Micah Wood, IT Coordinator Tyler Rainey, Maintenance Supervisor Bryan King, Town Recorder/Clerk Regina Fowler and Town Attorneys Andrew Mills and Kirk Vandivort. Other attendees participating remotely were Matthew Johnson-Barge Design and Steve Wyatt MTAS.

Public Comments: Any citizen desiring to make a comment can submit their written comments to the Town Clerk which will be included in the meeting minutes for public perusal. Email your comments to Town Hall at info@thompsons-station.com with **February BOMA Public Comments** as the Subject Line. Contact the Town Clerk with any questions at (615) 794-4333 ext. 1.

Announcements:

Alderman Shaun Alexander noted that he expected the representatives from June Lake to be on this agenda. The Town Administrator noted plans that initially were presented to the Planning Commission had changed and were not brought current. The Planning Commission voted to send it onward without a recommendation. The issues with the plan and associated rights-of-way will need to be addressed.

Mayor Napier recognized Richard King for his dedication and years of service as the Town Building Official for the Town of Thompson's Station. Mr. King retired officially as a full-time employee on December 31, 2020 however, he will remain in a part-time position for the time being.

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1. **Approve Consent Agenda:** Alderman Brandon Bell made a motion to approve the Consent Agenda excluding item c, a) approval to conduct this meeting by electronic means which is necessary to protect the public health, safety and welfare of Tennesseans in light of the COVID-19 outbreak (pursuant to Executive Order No. 71, b) Consideration of the Minutes of the January 12, 2021 regular meeting, d) Approve Dedication of Bridgemore Village Section 6C Roadways, drainage and erosion control public improvement, e) Approve Dedication of Bridgemore Village Section 6D Roadways, drainage and erosion control public improvement. The motion was seconded by Alderman Brian Stover and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea	5	Nay	0	Abstain	0
				Absent	0

Motion carried.

2. **Approval of Re-appointment of Utility Board Members, Everett “Skip” Beasley, Jeff Ridsen Charles Starck and to appoint Lauren Gaudioso into the vacant Utility Board Position.** Alderman Brian Stover made a motion to approve the re-appointment of Utility Board Members, Everett “Skip” Beasley, Jeff Ridsen, Charles Starck and to appoint Lauren Gaudioso into the vacant Utility Board Position. The motion was seconded by Alderman Brandon Bell and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea	5	Nay	0	Abstain	0
				Absent	0

Motion carried.

Unfinished Business:

3. **Approval of Second Reading of Ordinance 2021-001 to Amend the Town’s Municipal Code by Amending and Adding Chapters 4 & 5 of Title 15 to Add Parking and Parking Enforcement Rules as amended.** Alderman Brandon Bell made a motion to approve Second Reading of Ordinance 2021-001 to amend the Town’s Municipal Code by amending and adding Chapters 4 & 5 of Title 15 to Add Parking and Parking Enforcement Rules as amended. The motion was seconded by Alderman Shaun Alexander and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea	5	Nay	0	Abstain	0
				Absent	0

Motion carried.

4. **Approve Public Hearing and Second Reading of Ordinance 2020-013 to Amend the Town’s Zoning Map by Zoning 4.45 Acres of Territory located at 4440 Les Watkins Road (Map 144, Parcel 001.01).** Alderman Brian Stover made a motion to approve a Public Hearing and Second Reading of Ordinance 2020-013 to Amend the Town’s Zoning Map by Zoning 4.45 Acres of Territory located at 4440

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Les Watkins Road (Map 144, Parcel 001.01). The motion was seconded by Alderman Shaun Alexander and carried unanimously.

Roll Call Vote:

		<u>VOTE</u>			<u>VOTE</u>			<u>VOTE</u>	
Alderman Alexander		Yea		Alderman Bell	Yea		Alderman Stover	Yea	
Alderman Zinn		Yea		Mayor Napier	Yea				
Yea	5		Nay	0	Abstain	0	Absent		0

Motion carried.

5. **Approval of Resolution 2021-004 for Approval and Use of the Reservation of Wastewater Capacity Agreement with the Town of Thompson’s Station.** Alderman Brian Stover made a motion to Approve Resolution 2021-004 for Approval and Use of the Reservation of Wastewater Capacity Agreement with the Town of Thompson’s Station. The motion was seconded by Alderman Brandon Bell and carried unanimously.

Roll Call Vote:

		<u>VOTE</u>			<u>VOTE</u>			<u>VOTE</u>	
Alderman Alexander		Yea		Alderman Bell	Yea		Alderman Stover	Yea	
Alderman Zinn		Yea		Mayor Napier	Yea				
Yea	5		Nay	0	Abstain	0	Absent		0

Motion carried.

New Business:

6. **Approval of Purchase of Lawn Mower for Maintenance/Wastewater Department.** Alderman Brandon Bell made a motion to approve the Purchase of a Lawn Mower (from the State of Tennessee Contract) for the Maintenance/Wastewater Department. The motion was seconded by Alderman Brian Stover and carried unanimously.

Roll Call Vote:

		<u>VOTE</u>			<u>VOTE</u>			<u>VOTE</u>	
Alderman Alexander		Yea		Alderman Bell	Yea		Alderman Stover	Yea	
Alderman Zinn		Yea		Mayor Napier	Yea				
Yea	5		Nay	0	Abstain	0	Absent		0

Motion carried.

7. **Approval of Purchase of Wood Chipper for Maintenance Department.** Alderman Brian Stover made a motion to approve the Purchase of a Wood Chipper (from the State of Tennessee Contract) for the Maintenance Department. The motion was seconded by Alderman Shaun Alexander and carried unanimously.

Roll Call Vote:

		<u>VOTE</u>			<u>VOTE</u>			<u>VOTE</u>	
Alderman Alexander		Yea		Alderman Bell	Yea		Alderman Stover	Yea	
Alderman Zinn		Yea		Mayor Napier	Yea				
Yea	5		Nay	0	Abstain	0	Absent		0

Motion carried.

8. Approval of First Reading of Ordinance 2021-004 to Amend, by Clean Up and Clarification, Certain Provisions of the Land Development Ordinance. Alderman Brian Stover made a motion to approve on First Reading of Ordinance 2021-004 to amend, by Clean Up and Clarification, Certain Provisions of the Land Development Ordinance with noted changes to said Ordinance in regard to garages/road widths prior to the Second Reading. The motion was seconded by Alderman Shaun Alexander and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea	5	Nay	0	Abstain	0
				Absent	0

Motion carried.

9. Approve Hughes Excavating, LLC as Low Bidder (\$231,500.00) for the Utility Relocation for the Critz Lane Sewer Line Relocation. Alderman Shaun Alexander made a motion to approve Hughes Excavating, LLC as Low Bidder (\$231,500.00) for the Utility Relocation for the Critz Lane Sewer Line Relocation. The motion was seconded by Alderman Andrew Zinn and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea	5	Nay	0	Abstain	0
				Absent	0

Motion carried.

10. Approve Resolution 2021-002 A Resolution of the Town of Thompson’s Station, Tennessee to Approve Funds (\$143,000.00) for the Relocation of Water Lines Owned and Maintained by HB & TS (Hillsboro, Burwood & Thompson’s Station) related to Phase I of the Critz Lane Project. Alderman Shaun Alexander made a motion to approve a Resolution of the Town of Thompson’s Station, Tennessee to approve funds (\$143,000.00) for the Relocation of Water Lines Owned and Maintained by HB & TS (Hillsboro, Burwood & Thompson’s Station) related to Phase I of the Critz Lane Project. The motion was seconded by Brian Stover and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea	5	Nay	0	Abstain	0
				Absent	0

Motion carried.

11. Approval of United Technologies as Low Bidder (\$43,000.00) for the Wastewater Inflow/Infiltration Investigation Flow Monitoring. Alderman Brandon Bell made a motion for approval of United Technologies as Low Bidder (\$43,000.00) for the Wastewater Inflow/Infiltration Investigation Flow Monitoring. The motion was seconded by Brian Stover and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea 5		Nay 0	Abstain 0	Absent	0

Motion carried.

12. Approval of Memo of Understanding and Contract with Griggs & Maloney for Town Engineering Services. Alderman Brian Stover made a motion for approval of the Memo of Understanding and Contract with Griggs & Maloney for Town Engineering Services. The motion was seconded by Brandon Bell and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea 5		Nay 0	Abstain 0	Absent	0

Motion carried.

13. Approval of a Resolution 2021-003 of the Town of Thompson’s Station, Tennessee to Repeal Resolution No. 14-001 and to Amend the Municipal Debt Policy as Enacted by Resolution No. 11-005. Alderman Brandon Bell made a motion for approval of a Resolution 2021-003 of the Town of Thompson’s Station, Tennessee to repeal Resolution No. 14-001 and to amend the Municipal Debt Policy as enacted by Resolution No. 11-005. The motion was seconded by Alderman Brian Stover and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea 5		Nay 0	Abstain 0	Absent	0

Motion carried.

14. Approval on First Reading of an Ordinance 2021-005 to Amend the Town of Thompson’s Station Municipal Code Section 18-203 and Ordinance No. 07-016 relating to Wastewater User Rates. Alderman Brian Stover made a motion for approval on First Reading of an Ordinance 2021-005 to amend the Town of Thompson’s Station Municipal Code Section 18-203 and Ordinance No. 07-016 relating to Wastewater User Rates with an amendment of a Bi-Annual Review added prior to Second Reading of said Ordinance. The motion was seconded by Alderman Brandon Bell and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea 5		Nay 0	Abstain 0	Absent	0

Motion carried.

15. **Approval to Adjourn:** Alderman Shaun Alexander made a motion to adjourn. The motion was seconded by Alderman Brandon Bell and carried unanimously.

Roll Call Vote:

	<u>VOTE</u>		<u>VOTE</u>		<u>VOTE</u>
Alderman Alexander	Yea	Alderman Bell	Yea	Alderman Stover	Yea
Alderman Zinn	Yea	Mayor Napier	Yea		
Yea	5	Nay	0	Abstain	0
				Absent	0

Motion carried.

There being no further business, the meeting adjourned at 9:08 p.m.

Corey Napier, Mayor

Regina Fowler, Town Recorder/Clerk



Regina Fowler <rowler@thompsons-station.com>

Online Form Submittal: Utility Board Interest Form

1 message

noreply@civicplus.com <noreply@civicplus.com>
To: info@thompsons-station.com, trainey@thompsons-station.com

Wed, Feb 3, 2021 at 10:33 AM

Utility Board Interest Form

First Name	Joshua
Last Name	Mayo
Address1	2706 Paddock Park Drive
City	Thompsons Station
State	TN
Zip	37179
E-mail Address	JSMAYO11@Yahoo.com
Phone Number	615-533-4174
Introduce yourself and explain your interest in participating in the Utility Board	Hello, my name is Joshua Mayo and I have been a resident of Thompsons Station since 2008. As our town continues to grow, community participation in related areas, such as the Utility Board, is crucial. As an attorney by trade, I would welcome the opportunity to volunteer with Utility Board to assist the BOMA with wastewater and other, non-wastewater related utility issues as may be requested.
Resume, Statement of Interest, etc. (not required)	Resume - Joshua S. Mayo - 2021.pdf

Utility Board Members are appointed by the Board of Mayor and Aldermen.

Email not displaying correctly? [View it in your browser.](#)

ORDINANCE NO. 2021-005

**AN ORDINANCE OF THE TOWN OF THOMPSON'S STATION, TENNESSEE TO
AMEND ORDINANCE NOS. 07-016 AND 10-007 AND TITLE 18, CHAPTER 2 OF THE
THOMPSON'S STATION'S MUNICIPAL CODE REGARDING WASTEWATER SYSTEM
USER RATES**

WHEREAS, the Utility Board and Town Staff for the Town of Thompson's Station is recommending based on a report from the Municipal Technical Assistant Services (MTAS) an amendment to certain provisions of the Town's Ordinance Nos. 07-016 and 10-007 and Subsection 18-203 of Title 18, Chapter 2 of the Municipal Code for the Town of Thompson's Station, and

WHEREAS, the Board of Mayor and Aldermen have for their consideration the adoption of amendments to Ordinance Nos. 07-016 and 10-007 and Subsection 18-203 of Title 18, Chapter 2 as proposed herein to remove the maximum monthly residential sewer fee of user rate of \$55.00.

WHEREAS, the Board of Mayor and Alderman understand there exist growth in the population of the Town, and further, understand the occurrence of expansion of development to accommodate that growth in population, and further recognize a greater demand for wastewater treatment needs as a result of the growth and expansion; and

WHEREAS, the Board of Mayor and Alderman further have for consideration an increase of wastewater user rates to a base rate of \$29.00 and a uniform cost per gallon of 1,000 gallons of sewer set at \$8.10, effective starting July 1, 2022. Additionally, there would be a bi-annual review starting on or about January 1, 2023, for the purpose of consideration of the need for a rate increase based on the evaluation of the operational expense and associated cost of the regional treatment facility.

WHEREAS, the Board of Mayor and Alderman have further determined that it is in the best interest of the Town to amend the language of Ordinance No. 07-016, Section 3 and Ordinance No. 10-007, Section 2, to remove the language of the use of "Residential and Nonresidential uses: 107.5 % of water fees and Maximum Residential Maximum Residential Fee: \$55.00" and of the "Maximum Monthly Residential Fee: \$55.00"; respectively, and

WHEREAS, the Board of Mayor and Alderman have further determined that it is in the best interest of Town to amend the current language in Subsection 18-203 of Title 18, Chapter 2, entitled, "Maximum Residential Fee" in its entirety and replace with the language as provided hereinafter; and

NOW, THEREFORE, BE IT ORDAINED by the Board of Mayor and Aldermen of the Town of Thompson's Station, Tennessee, as follows:

Section 1. That the Town of Thompson's Station's Ordinance No. 07-016, Section 3, and Ordinance No. 10-007, Section 2 is amended, as provided hereinafter, and Subsection 18-203 of Title 18, Chapter 2 is amended with replacement language as provided hereinafter.

Section 2. That Ordinance No.07-016, Section 3, entitled "Maximum Residential Fee" be struck in its entirety.

Section 3. That Ordinance No. 10-007, Section 2, *User Rates*, is amended by striking the below language from the Ordinance:

Maximum Monthly Residential Fee: \$55.00

Section 4. That Title 18, Chapter 2, Subsection 18-203 is amended to remove the following language and to insert replacement language as provided:

Maximum residential fee: The maximum monthly sewer fee that will be assessed against one residential structure shall be fifty-five dollars (\$55.00). This maximum fee shall not apply to multi-unit structures, multi-family residences, multiple structures on the same property or any other circumstances where residential structures represents more than one (1) residential unit. (Ord. #07-016, Jan.2008)

Replacement language as follows:

Residential and Nonresidential User Rates:

Residential and Nonresidential wastewater user rates shall be set as follows:

A base rate is set at the amount of \$29.00 per user.

A uniform cost per 1,000 gallons of sewer used is set at a rate of \$8.10 per 1,000 gallons.

The rates shall be effective starting July 1, 2022. Additionally, there shall be a bi-annual review starting on or about January 1, 2023, for the purpose of consideration of the need for a rate increase based on the evaluation of the operational expense and associated cost of the regional treatment facility.

Section 5. After final passage, Town Staff is directed to incorporate these changes into an updated ordinance document and municipal code.

Section 6. If any section or part of the Ordinance, including any amendments thereto, is determined to be invalid for any reason, such section or part shall be deemed to be a separate and independent provision. All other sections or parts shall remain in full force and effect. If any section or part of the Ordinance is invalid in one or more of its applications, that section or part shall remain in effect for all other valid applications.

Section 7. This ordinance shall take effect upon the final reading as prescribed in the ordinance and approval by the Board of Mayor and Aldermen, the public welfare requiring it.

Duly approved and adopted by the Board of Mayor and Aldermen of the Town of Thompson's Station, Tennessee, on the ____ day of _____, 2021.

Corey Napier, Mayor

ATTEST:

Regina Fowler, Town Recorder

Passed First Reading: February 9, 2021

Passed Second Reading: _____

APPROVED AS TO FORM AND LEGALITY:

Town Attorney

RESOLUTION NO. 2021-006

**A RESOLUTION OF THE TOWN OF THOMPSON'S STATION, TENNESSEE
TO APPROVE CONTRACT FOR LOW BIDDER FOR THE RELOCATION OF
WASTEWATER UTILITY LINES ALONG A PORTION OF CRITZ LANE**

WHEREAS, the Town of Thompson's Station, after putting out for public bid, is desirous of approving the low bidder for the relocation of wastewater utility lines along a portion of Critz Lane;

WHEREAS, the Board of Mayor and Aldermen does authorize the Mayor to enter into and execute an agreement for relocation of said wastewater utility lines with Hughes Excavating, LLC in the amount of Two Hundred Thirty-Five Thousand and Five Hundred Dollars (\$231,500.00); and

NOW, THEREFORE, BE IT RESOLVED by the Board of Mayor and Aldermen of the Town of Thompson's Station as follows:

That the low bidder for the relocation of wastewater utility lines along a portion of Critz Lane, Hughes Excavating, LLC, having been previously accepted, is hereby approved and the Mayor is authorized to sign the agreement on behalf of the Town of Thompson's Station, contingent upon the low bidder providing necessary proof of bonds and insurance as required.

RESOLVED AND ADOPTED this ____ day of March, 2021.

Corey Napier , Mayor

ATTEST:

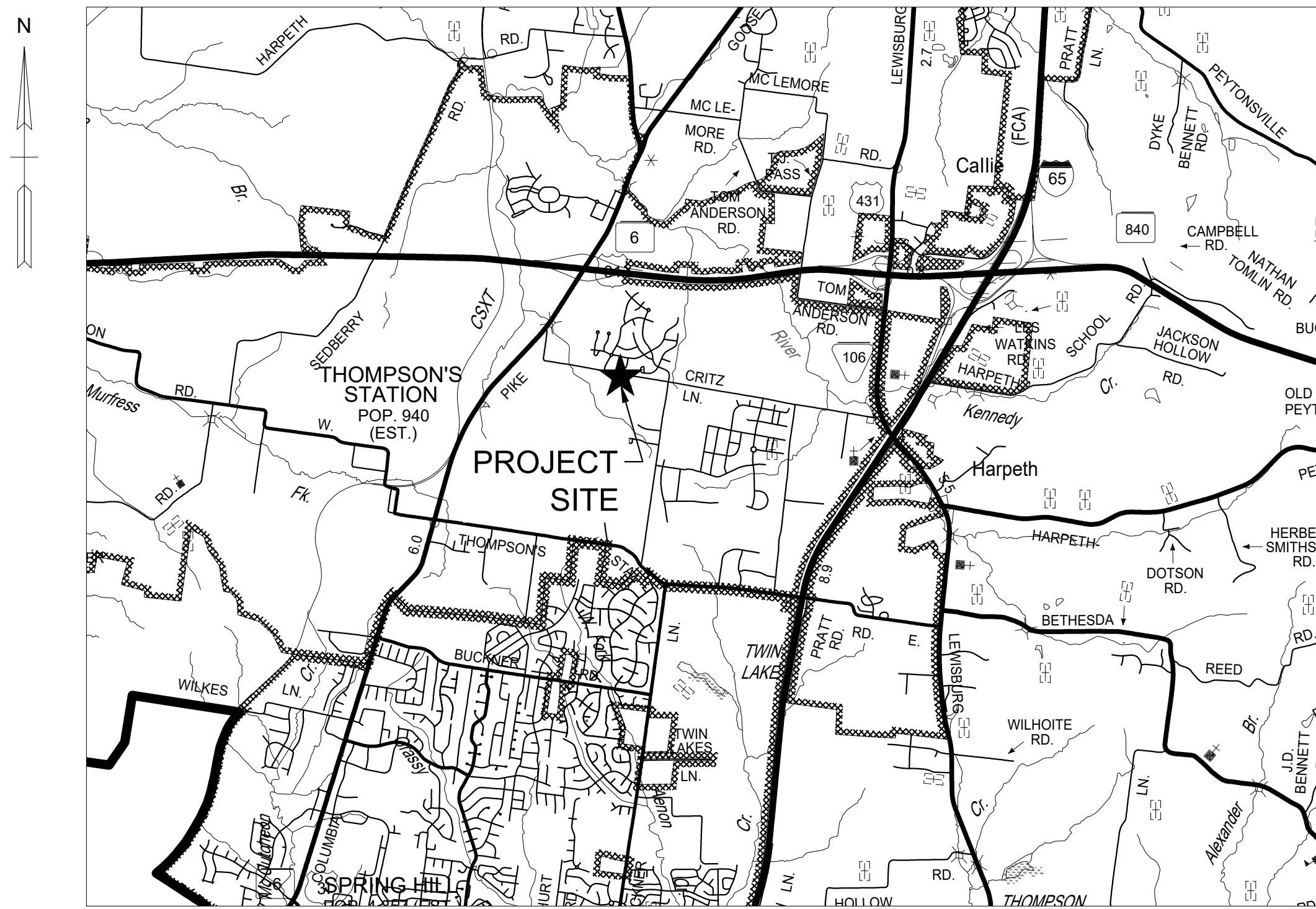
Regina Fowler, Town Recorder

APPROVED AS TO LEGALITY AND FORM:

Town Attorney

CRITZ LANE UTILITY RELOCATION THOMPSON'S STATION, TENNESSEE

TOWN OF THOMPSON'S STATION



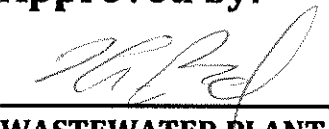
LOCATION MAP

NOT TO SCALE

PROJECT TEAM

OWNER
TOWN OF THOMPSON'S STATION
1550 THOMPSON'S STATION RD W
THOMPSON'S STATION, TN 37179
PHONE: (615) 794-4333

ENGINEER
BARGE DESIGN SOLUTIONS, INC.
615 3RD AVENUE SOUTH, SUITE 700
NASHVILLE, TENNESSEE, 37210
PHONE: (615) 252-4431
CONTACT: CLAYTON FOSTER, PE

Approved by:

WASTEWATER PLANT OPERATOR,
TOWN OF THOMPSON'S STATION

11-16-20
Date

CRITZ LANE
UTILITY RELOCATION
THOMPSON'S STATION, TENNESSEE
ISSUED FOR BID



615 3rd Avenue South // Suite 700 // Nashville, Tennessee 37210
PHONE (615) 254-1500 // FAX (615) 255-6572

GO.00
PROJECT No.
36724-05

F:\36\36724\3672405\04_CAD\GENI\Plot\3672405_COVER.dwg
PLOT DATE: 10/30/2020
BY: DGBONERS
LAST SAVED: 10/30/2020
CREATED: 10/12/2020

INDEX OF SHEETS

G0.00	COVER
G0.01	INDEX, NOTES, LEGEND AND ABBREVIATIONS
C1.00	OVERALL SITE PLAN
C1.01	SEWER FORCE MAIN - PLAN & PROFILE
C1.02	SEWER FORCE MAIN - PLAN & PROFILE
C5.01	STANDARD DETAILS
C5.02	STANDARD DETAILS

FORCE MAIN GENERAL NOTES:

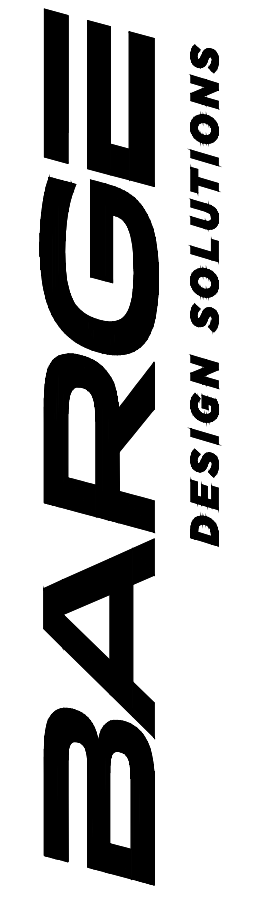
- THE CONTRACTOR SHALL VERIFY LOCATIONS AND INVERTS OF ALL PROPOSED AND EXISTING UTILITIES (INCLUDING STORM DRAINAGE PIPES OR STRUCTURES) BEFORE COMMENCEMENT OF CONSTRUCTION.
- IN EASEMENTS AND RIGHT-OF-WAY, CONTRACTOR SHALL PROTECT AND RESTORE PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF CONSTRUCTION EXCEPT AS NOTED.
- SURPLUS MATERIAL NOT REQUIRED FOR SITE CONSTRUCTION SHALL BE DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AFTER THE OWNER'S APPROVAL.
- FILL MATERIAL REQUIRED, IF ANY, SHALL BE BORROWED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY AGC OF AMERICA, INC., AND THE "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION" ISSUED BY THE U.S. DEPARTMENT OF LABOR.
- CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS.
- ALL PIPES UNDER EXISTING PAVED AREAS SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH NO. 57 CRUSHED STONE OR UTILITY APPROVED CRUSHED STONE.
- IN THE EVENT OF ANY DISCREPANCIES AND/OR ERRORS FOUND IN THE DRAWINGS OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. IF ENGINEER IS NOT NOTIFIED, THE CONTRACTOR SHALL TAKE RESPONSIBILITY FOR THE COST OF ANY REVISION.
- CONTRACTOR TO NOTIFY THE TOWN OF THOMPSON'S STATION FOURTEEN (14) DAYS PRIOR TO MAKING CONNECTIONS TO EXISTING FORCE MAINS OR MANHOLES.
- THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF THOMPSON'S STATION TO DETERMINE TIME FOR FORCE MAIN TIE-IN. SHUT DOWN OF FORCE MAINS SHALL NOT EXCEED 2 HOURS AND SHALL BE SCHEDULED DURING A LOW FLOW PERIOD UNLESS OTHERWISE APPROVED BY THE TOWN OF THOMPSON'S STATION.
- THE CONTRACTOR SHALL GIVE RESIDENTS A 24 HOUR NOTICE PRIOR TO ANY TEMPORARY BLOCKING, REMOVAL, OR REPLACEMENT OF DRIVEWAYS OR ENTRANCES AFFECTED BY PIPELINE CONSTRUCTION.
- IT SHALL BE THE RESPONSIBILITY OF THE PRIME CONTRACTOR'S SURVEYOR TO LAY OUT ALL THE FACILITIES WITHIN THE CONTRACT
- INFORMATION REGARDING EXISTING CONDITIONS AND FACILITIES ARE DERIVED FROM PREVIOUS CONTRACT DRAWINGS OBTAINED FROM THE TOWN OF THOMPSON'S STATION AND ARE NOT GUARANTEED. CONTRACTOR SHALL VERIFY ALL PIPE SIZES AND LOCATIONS.
- ALL OPEN EXCAVATION LEFT OVERNIGHT SHALL BE ENCLOSED WITH ORANGE SAFETY FENCE.
- DURING CONSTRUCTION, THE CONTRACTOR WILL MAINTAIN A SET OF RED LINED DRAWINGS WITH ALL FINAL MEASUREMENTS AND AS-BUILT INFORMATION. RED LINED DRAWINGS SHALL BE USED TO PREPARE AS-BUILT DRAWINGS FOR THE OWNER.
- ALL PAVEMENT TO BE RESTORED SHALL BE SAW CUT PRIOR TO CONSTRUCTION UNLESS NOTED OTHERWISE. PARABOLIC ROUNDING SHALL APPLY TO ALL CUT AND FILL SECTIONS.
- THE EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. SOME OF THE LOCATIONS SHOWN WERE OBTAINED FROM RECORDS AND INFORMATION AVAILABLE AND ARE NOT GUARANTEED. UTILITIES NOT SHOWN ON THIS DRAWING MAY EXIST. THE CONTRACTOR SHALL CONTACT RESPECTIVE UTILITY COMPANIES FOR FIELD VERIFICATION AND IS RESPONSIBLE FOR ANY DAMAGES TO AND FOR MAINTENANCE AND PROTECTION OF ALL EXISTING UTILITIES. CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY OF FIELD VERIFYING EACH UTILITY LOCATION AND COORDINATING AND NOTIFYING OWNERS AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO EXCAVATION.
- THE CONTRACTOR SHALL LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS, AND PROJECT ENGINEERING REFERENCE POINTS. REESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED SURVEYOR IN THE STATE OF TENNESSEE AT NO COST TO THE OWNER.
- WHERE WASTEWATER LINES AND WATERLINES CROSS, THE WATERLINE SHALL BE PLACED ABOVE THE WASTEWATER LINE WITH A MINIMUM SEPARATION OF 18 INCHES. IF IT IS NOT POSSIBLE, THE WASTEWATER LINE SHALL BE CASED WITH ONE FULL LENGTH OF C900 PVC PRESSURE PIPE. THE SEPARATION OF WATER AND WASTEWATER LINES AND THE MATERIAL USED SHALL BE IN ACCORDANCE WITH THE "RULES & REGULATIONS FOR PUBLIC WATER SYSTEMS" OF TENNESSEE COMMISSION ON ENVIRONMENTAL QUALITY.
- MECHANICAL RESTRAINING DEVICES SHALL BE USED FOR THRUST RESTRAINT. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ADEQUATE LENGTHS OF PIPE ARE RESTRAINED.
- FORCE MAINS SHALL BE INSTALLED WITH A MINIMUM OF 3.5 FT. COVER UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL SUPPLY ALL BENDS REQUIRED TO MAINTAIN SMOOTH FLOW LINES, CHANGES IN ELEVATION, AND TO MEET ALL TRANSITIONS. USE BENDS UNLESS INDICATED OTHERWISE OR APPROVED BY THE TOWN OF THOMPSON'S STATION.
- A COPY OF TDEC APPROVED PLANS SHALL BE ON SITE AT ALL TIMES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR STORM WATER CONTROL DURING CONSTRUCTION.
- ALL FORCE MAIN INSPECTION TO BE COMPLETED BY TOWN OF THOMPSON'S STATION PERSONNEL.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION, SEDIMENT, AND DUST CONTROL MEASURES AS NECESSARY TO COMPLETE THE WORK.
- DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED WITH PROTECTO 401 OR PERMOX CTF. THE OUTSIDE COATING SHALL BE MANUFACTURER'S STANDARD ASPHALTIC COATING.
- RECORD ACTUAL LOCATIONS OF PIPING MAINS, VALVES, CONNECTIONS, AND THRUST RESTRAINTS. PROVIDE GPS COORDINATES (TO CENTIMETER ACCURACY). IDENTIFY AND DESCRIBE UNEXPECTED VARIATIONS TO SUBSOIL CONDITIONS OR DISCOVERY OF UNCHARTED UTILITIES.
- FORCE MAINS SHALL BE C900 PVC PLASTIC PIPING UNLESS OTHERWISE NOTED.
- CONTRACTOR TO ATTEND UP TO TWO CONSTRUCTION COORDINATION MEETINGS.

LEGEND

EXISTING	NEW	
		CAP OR PLUG
		SANITARY SEWER MANHOLE
		CLEANOUT
		YARD HYDRANT
		FIRE HYDRANT
		REDUCER
		SOLID SLEEVE OR HDPE MJ ADAPTER
		VALVE
		WATER METER
		AIR VALVE MH OR LINE STOP VALVE
		FORCE MAIN
		GAS LINE
		STORM SEWER LINE
		SANITARY SEWER LINE
		WATER MAIN
		EDGE OF PAVEMENT
		CONTOUR
		FENCE
		UNDERGROUND TELEPHONE
		CABLE
		POWER
		OVERHEAD TELEPHONE
		POLE GUY WIRE
		POWER/TELEPHONE POLE
		TREE LINE
		TREE
		PROPERTY BOUNDARY LINE
		RIGHT-OF-WAY
		LAND LOT LINE
		CREEK LINE
		LIMITS OF CONSTRUCTION

ABBREVIATIONS

Ø	DIAMETER
AFF	ABOVE FINISHED FLOOR
ALUM.	ALUMINUM
BCB	BOTTOM CATCH BASIN
BOC	BACK OF CURB
BFP	BACKFLOW PREVENTOR
BFV	BUTTERFLY VALVE
CB	CATCH BASIN
CCTV	CLOSED CIRCUIT TELEVISION
CI	CURB INLET
CIPP	CURED-IN-PLACE PIPE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CONC	CONCRETE
CONN	CONNECT
CONST.	CONSTRUCTION
CPLG.	COUPLING
CS	COMBINED SEWER
CU	COPPER
CV	CHECK VALVE
DB	DEED BOOK
DI	DROP INLET
DIP	DUCTILE IRON PIPE
DWCB	DOUBLE WING CATCH BASIN
D/W	DRIVEWAY
EX.	EXISTING
ELEC	ELECTRICAL SERVICE
EOI	END OF INFORMATION OR UNKNOWN TERMINATION POINT
EOP	EDGE OF PAVEMENT
FIP	FEMALE IRON PIPE
FFE	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
FM	FORCE MAIN
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HORZ	HORIZONTAL
HWY	HIGHWAY
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INV	INVERT
LF	LINEAR FEET
MIN	MINIMUM
MIP	MALE IRON PIPE
MJ	MECHANICAL JOINT
MH	MANHOLE
MNPT	MALENATIONAL PIPE THREAD
N/F	NOW OR FORMERLY
NPW	NON POTABLE WATER
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
PG	PAGE
PP	POWER POLE
PR	POINT REPAIR
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
PWF	WATER FAUCET
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RET	RETAINER
RJ	RESTRAINED JOINT
R/W	RIGHT-OF-WAY
SD	STORM DRAIN
SHT	SHEET
SP	SIGNAL POLE
SPD	STANDARD PROCTOR DENSITY
SR	STATE ROUTE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SSTL	STAINLESS STEEL
STA	STATION
SWCB	SINGLE WING CATCH BASIN
TELECOM	TELECOMMUNICATION CONDUIT
TP	TELEPHONE POLE
TSB	TRAFFIC SIGNAL BOX
TS&V	TAPPING SLEEVE AND VALVE
TRAFCON	TRAFFIC SIGNAL COMM WIRE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
WM	WATER METER
WTR	WATER
W/	WITH
'	FEET
"	INCHES



60 Germantown Court / Suite 100 / Memphis, Tennessee 38118
PHONE (901) 755-1601 / FAX (901) 752-194



INDEX, NOTES, LEGEND AND ABBREVIATIONS

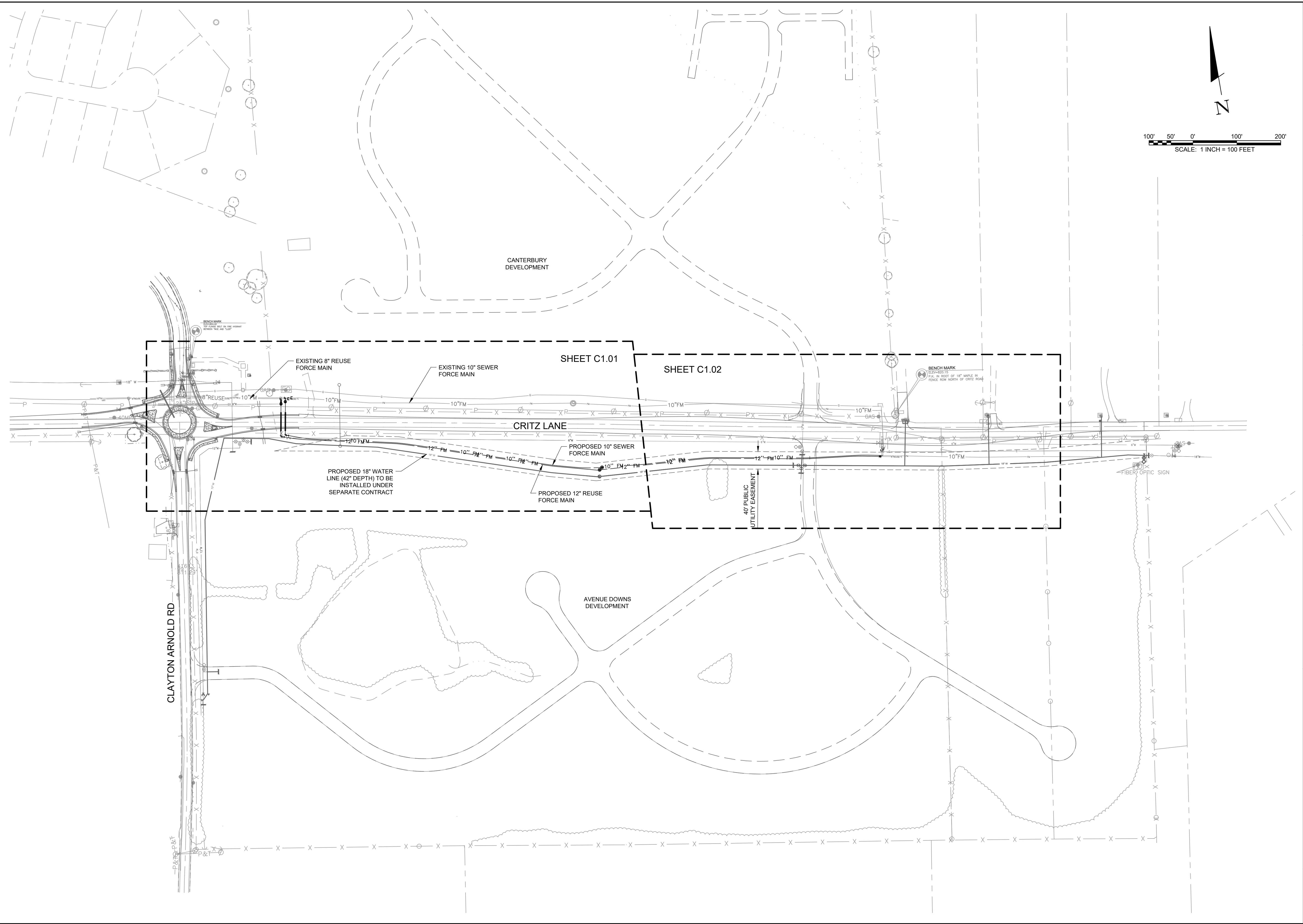
CRITZ LANE UTILITY RELOCATION
FOR THE
TOWN OF THOMPSON'S STATION, TENNESSEE
THOMPSON'S STATION, TENNESSEE

REVISION INFORMATION		CHK.	DATE	DESCRIPTION
REV.	DR.	MDM.	MM	ISSUED FOR BID
0			11/06/2020	

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PLOTTED: 12/31/2020

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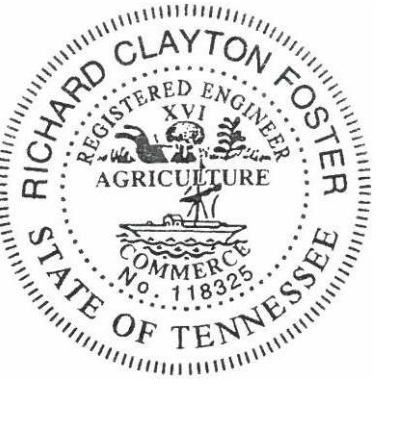
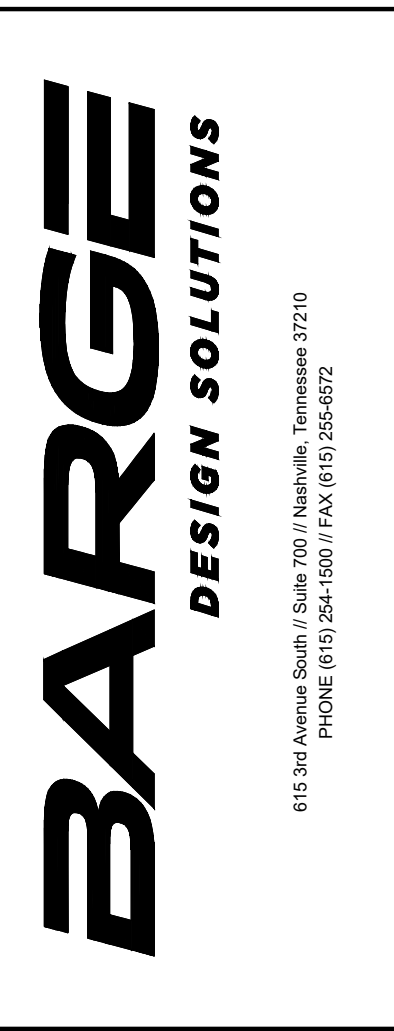
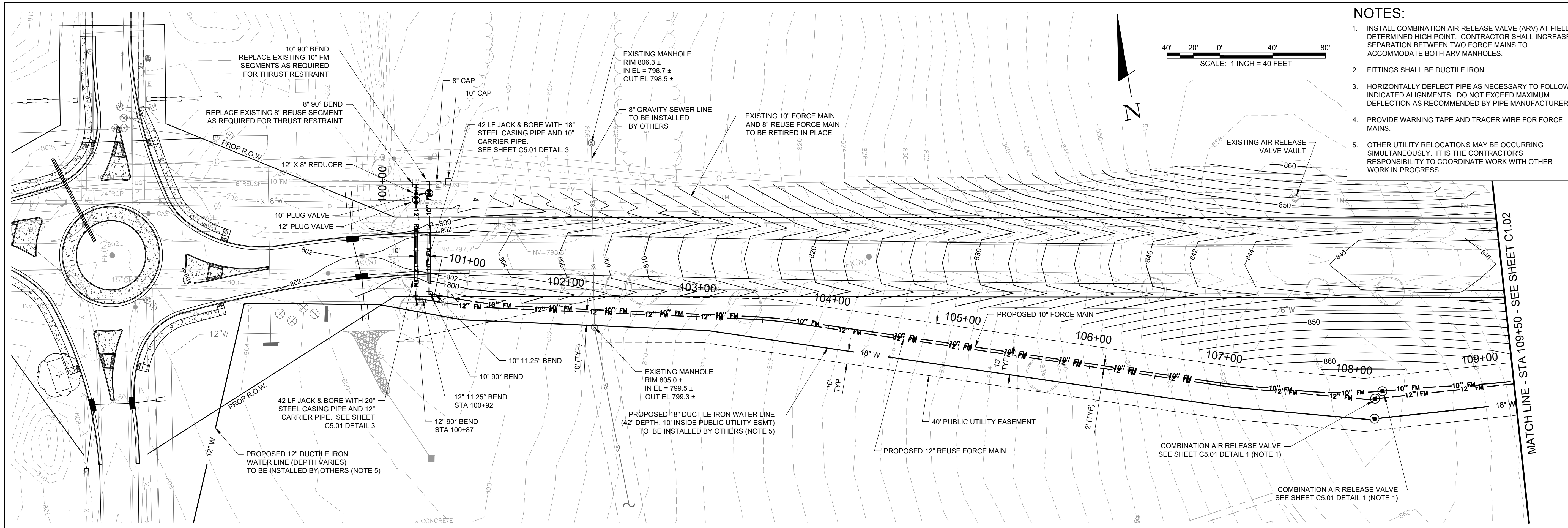


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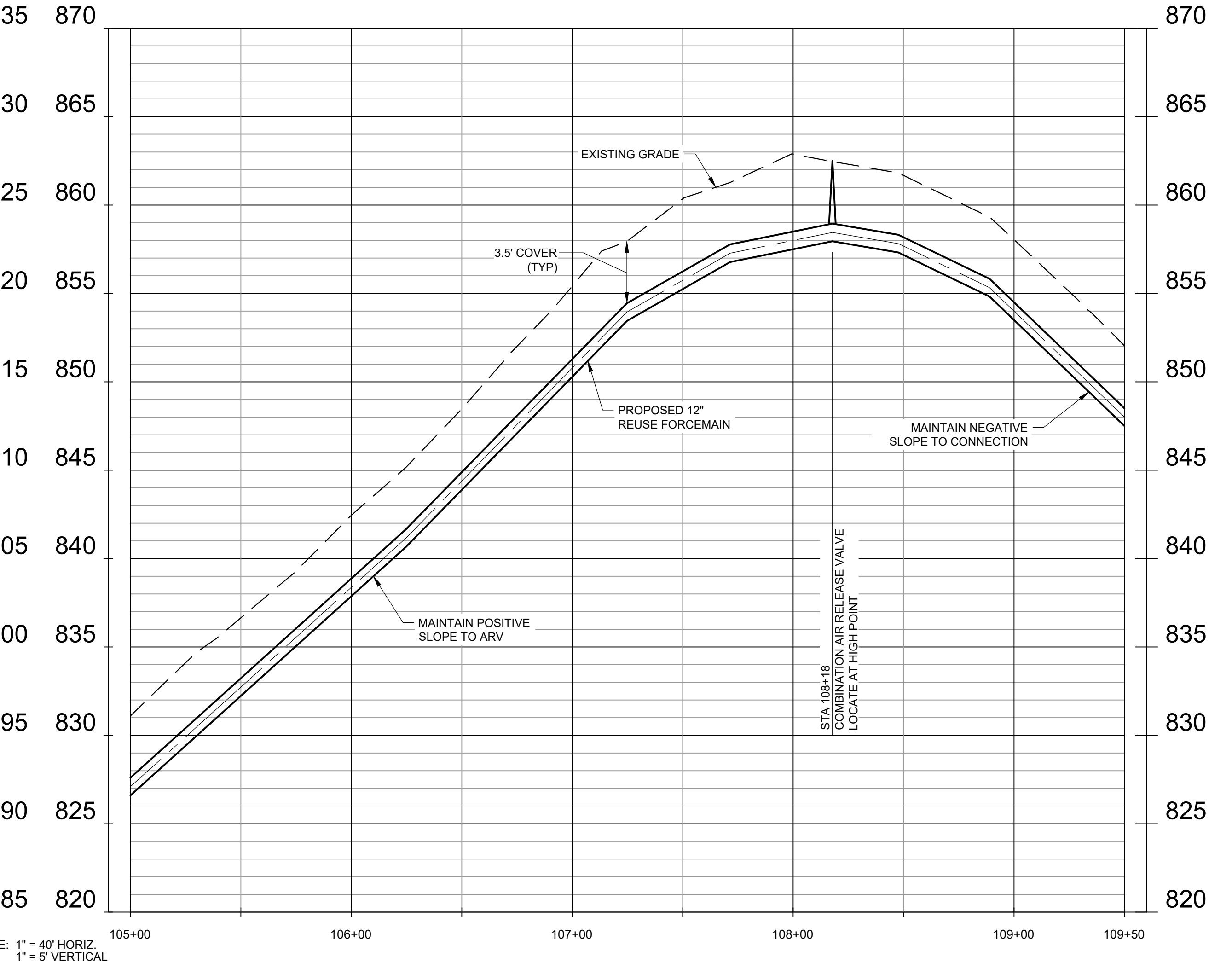
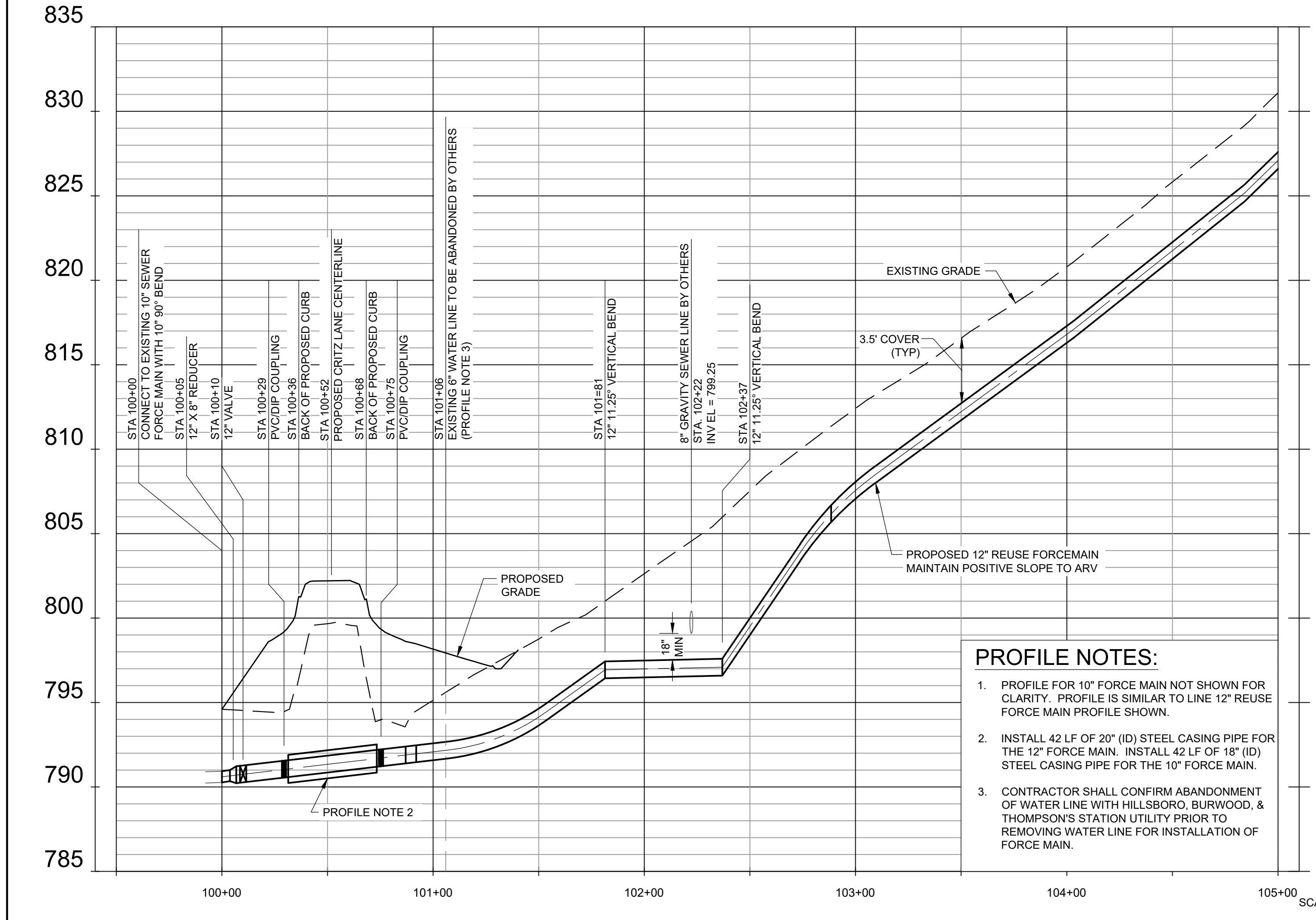
**CRITZ LANE UTILITY RELOCATION
 FOR THE
 TOWN OF THOMPSON'S STATION, TENNESSEE**

REVISION INFORMATION		CHK.	DATE	DESCRIPTION
REV.	DR.	MDN	11/06/2020	ISSUED FOR BID
0				

C1.00
 FILE NO. 36724-05



SEWER FORCE MAIN - PLAN & PROFILE
CRITZ LANE UTILITY RELOCATION
FOR THE
TOWN OF THOMPSON'S STATION, TENNESSEE
 THOMPSON'S STATION, TENNESSEE

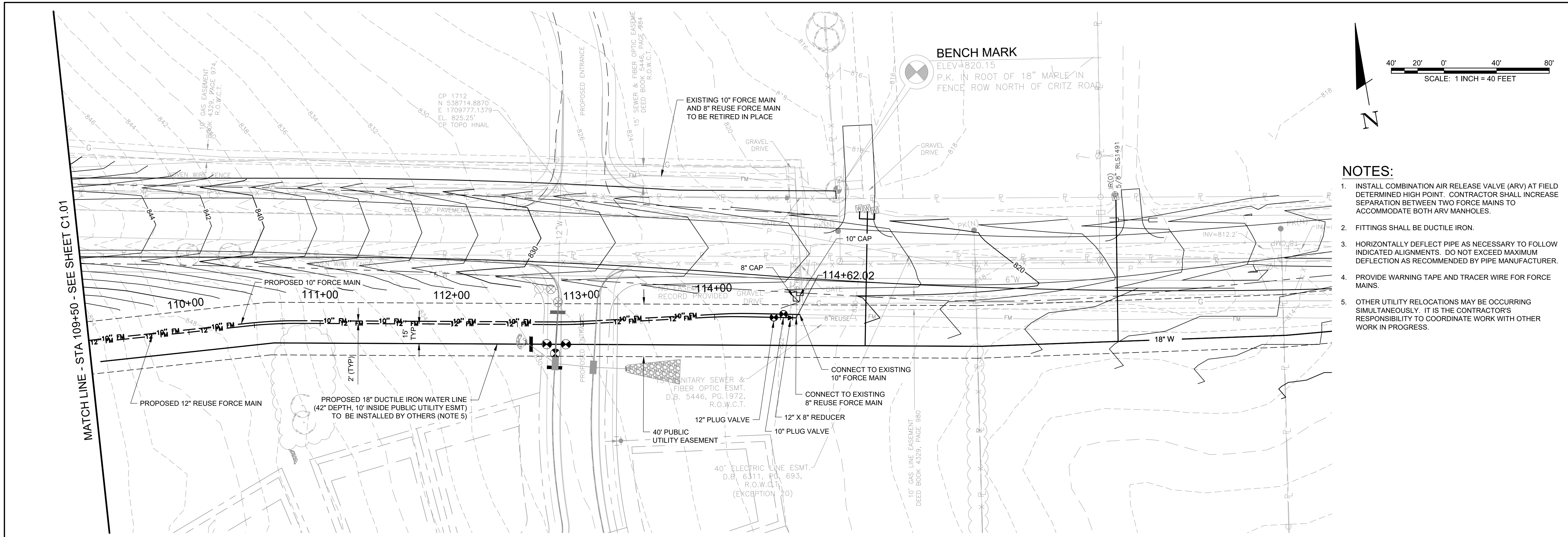


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REV.	DESCRIPTION
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1	11/06/2020

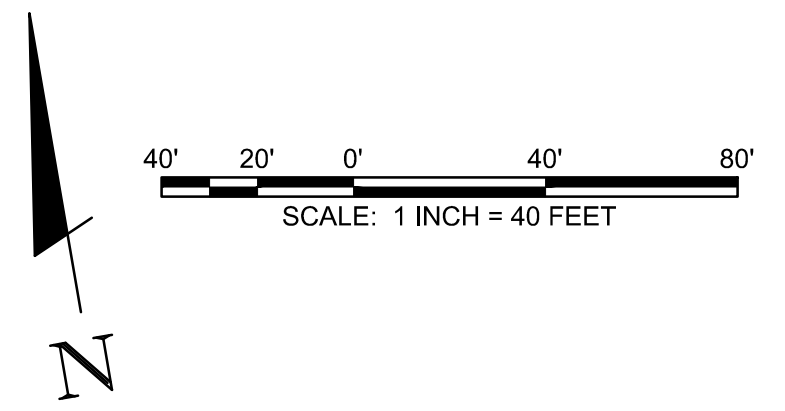
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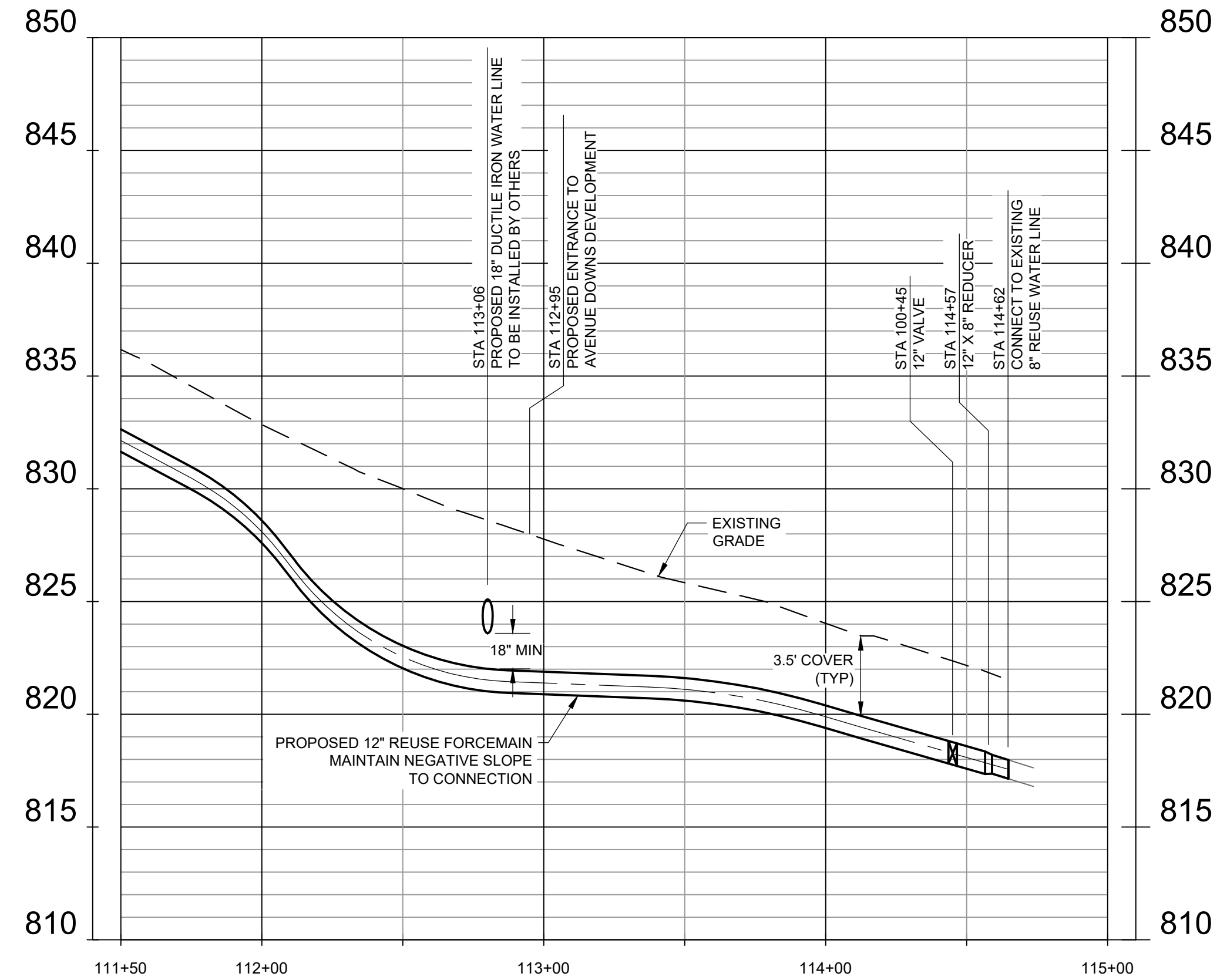
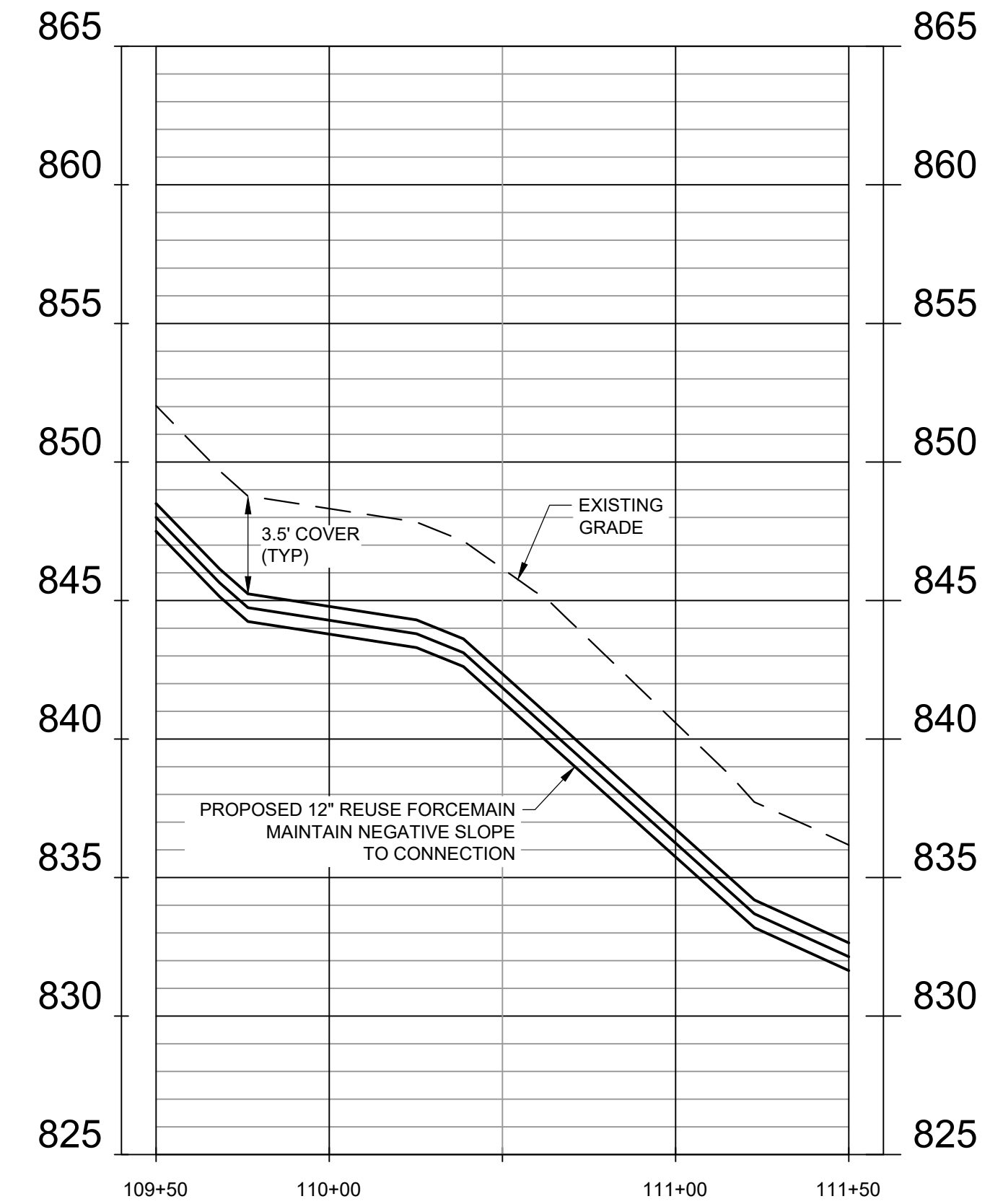


- NOTES:**
1. INSTALL COMBINATION AIR RELEASE VALVE (ARV) AT FIELD DETERMINED HIGH POINT. CONTRACTOR SHALL INCREASE SEPARATION BETWEEN TWO FORCE MAINS TO ACCOMMODATE BOTH ARV MANHOLES.
 2. FITTINGS SHALL BE DUCTILE IRON.
 3. HORIZONTALLY DEFLECT PIPE AS NECESSARY TO FOLLOW INDICATED ALIGNMENTS. DO NOT EXCEED MAXIMUM DEFLECTION AS RECOMMENDED BY PIPE MANUFACTURER.
 4. PROVIDE WARNING TAPE AND TRACER WIRE FOR FORCE MAINS.
 5. OTHER UTILITY RELOCATIONS MAY BE OCCURRING SIMULTANEOUSLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WORK WITH OTHER WORK IN PROGRESS.



SEWER FORCE MAIN - PLAN & PROFILE
 CRITZ LANE UTILITY RELOCATION
 FOR THE
 TOWN OF THOMPSON'S STATION, TENNESSEE

REVISION INFORMATION	
REV.	DESCRIPTION
0	ISSUED FOR BID

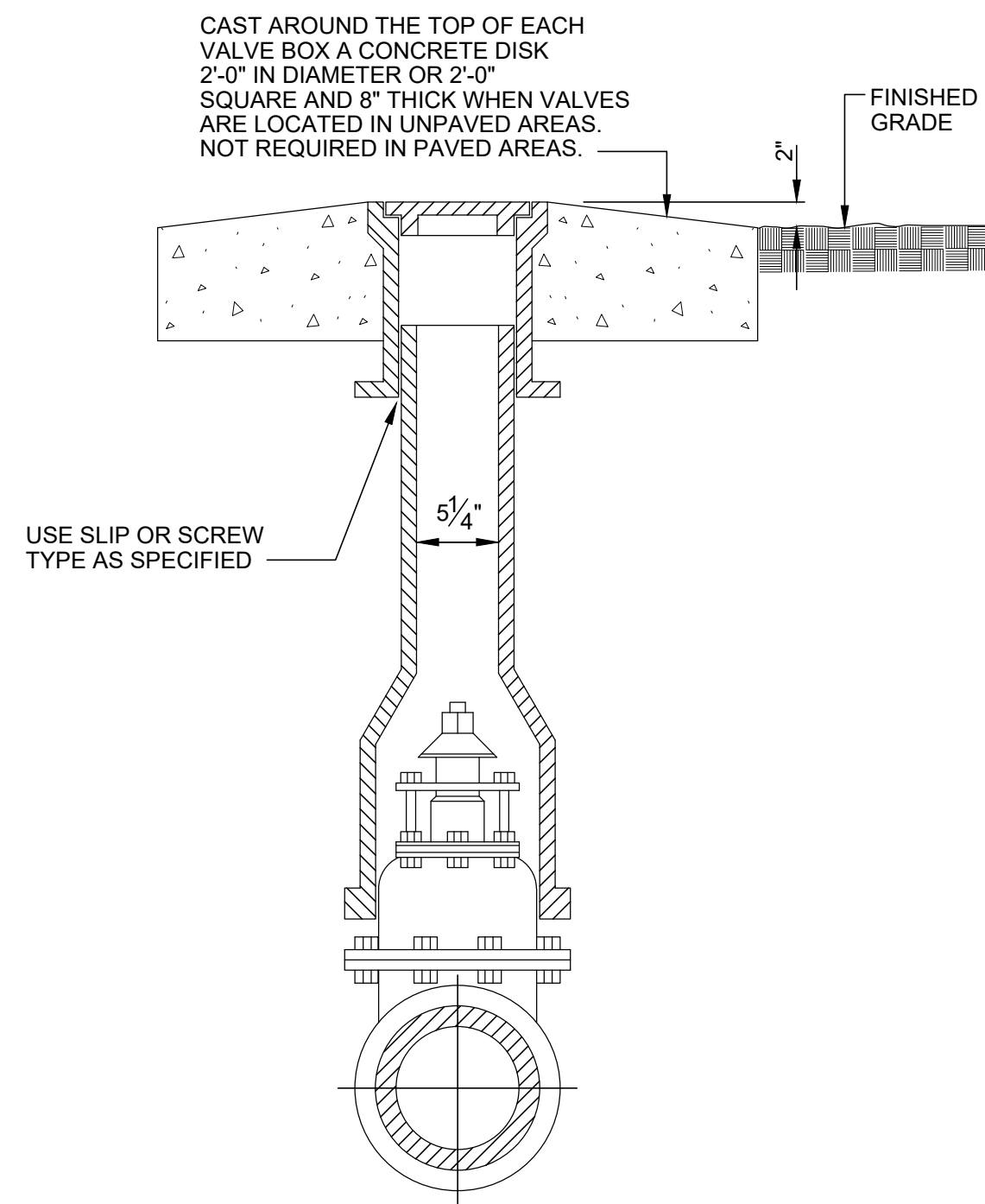


PROFILE NOTE:

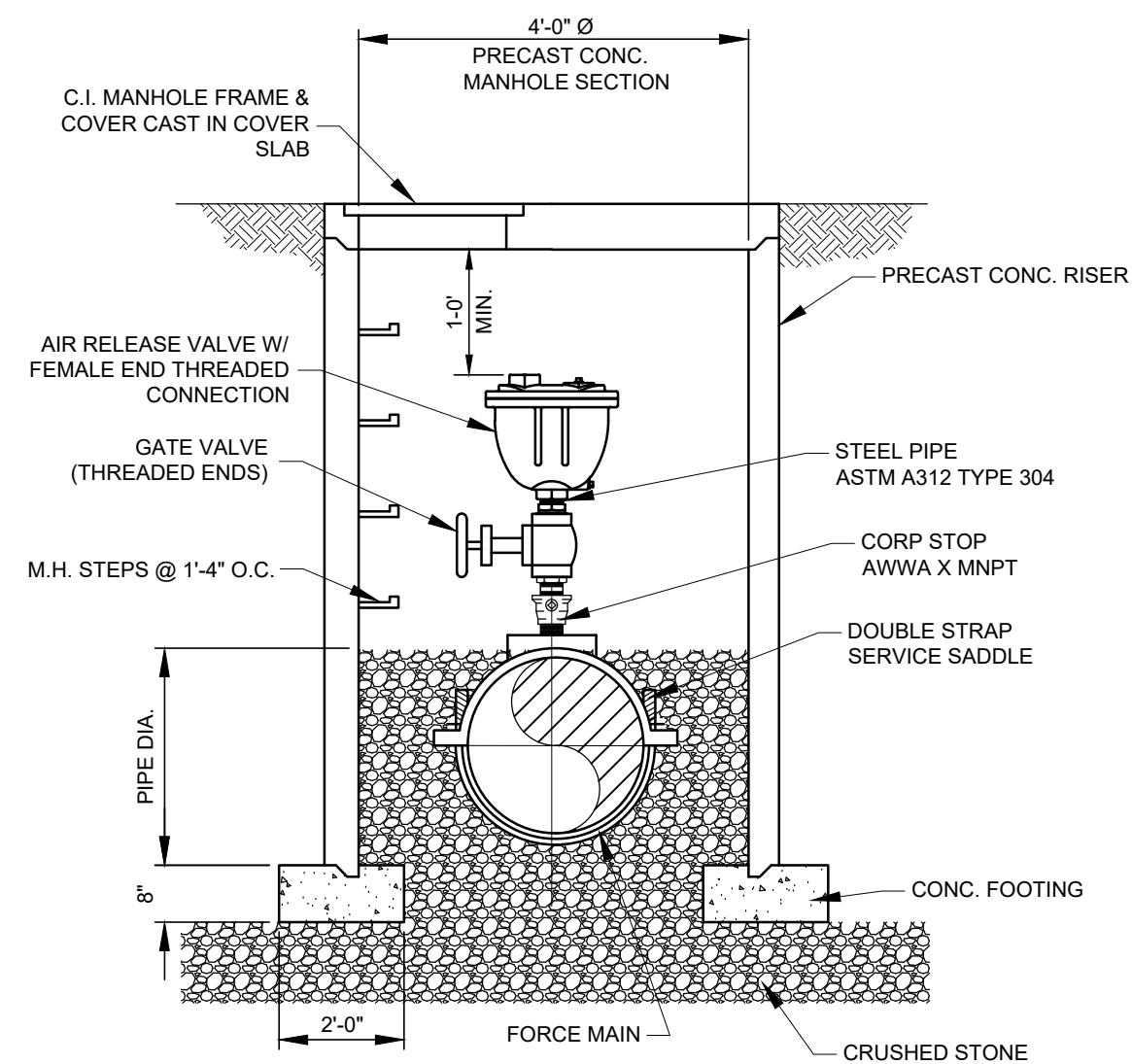
1. PROFILE FOR 10" FORCE MAIN NOT SHOWN FOR CLARITY. PROFILE IS SIMILAR TO LINE 12" REUSE FORCE MAIN PROFILE SHOWN.

SCALE: 1" = 40' HORIZ.
 1" = 5' VERTICAL

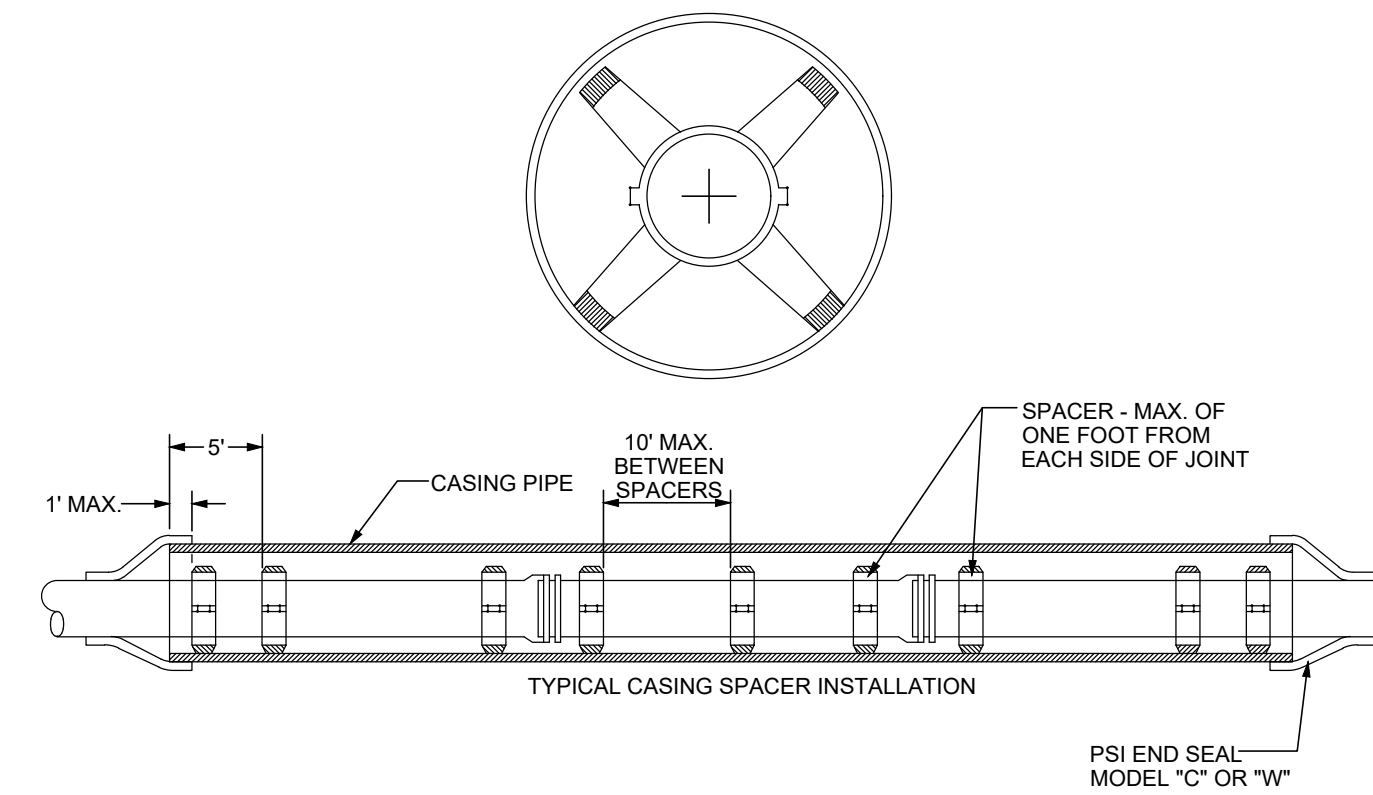
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 FILE NO. 36724-05



1 TYPICAL VALVE BOX
SCALE: N.T.S.

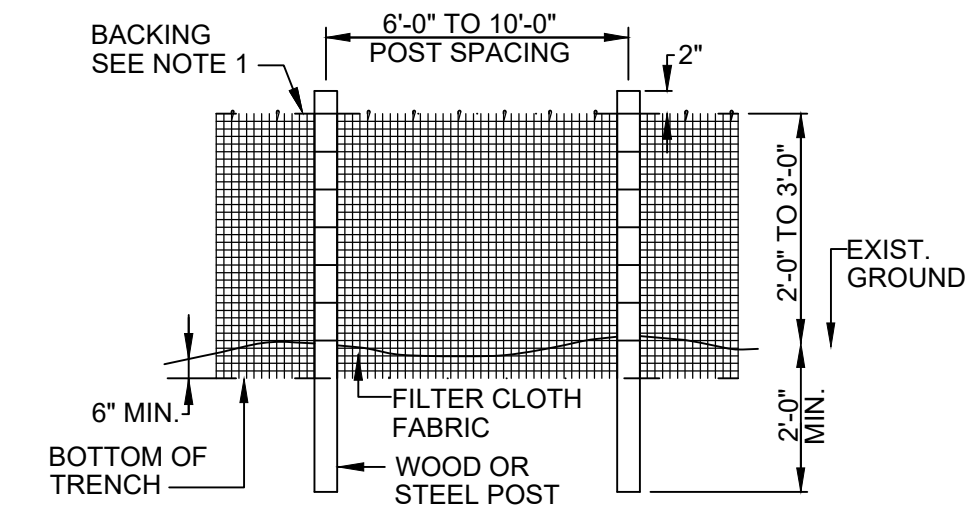


2 2" AIR / VACUUM RELEASE VALVE MANHOLE
SCALE: N.T.S.

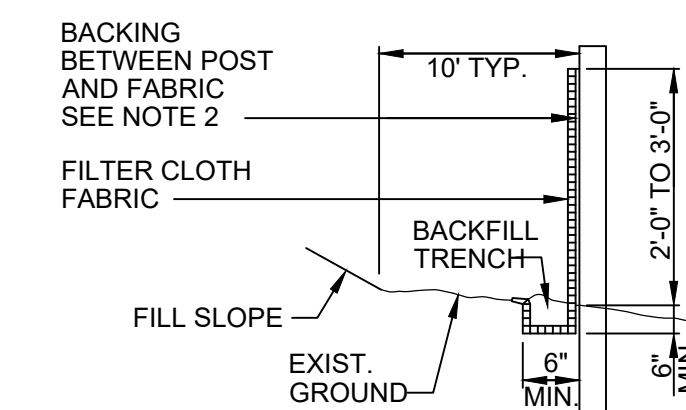


- NOTES:
1. MINIMUM CASING PIPE WALL THICKNESS SHALL BE AS SPECIFIED.
 2. SPACERS SHALL BE NON-METALLIC TYPE, RANGER II MADE BY PIPELINE SEAL AND INSULATOR, INC.
 3. END SEALS SHALL BE MODEL "C" OR "W" AS MADE BY PIPELINE SEAL AND INSULATOR, INC.
 4. CARRIER PIPE SHALL BE RESTRAINED JOINT.

3 UTILITY CASING
SCALE: N.T.S.



ELEVATION



SECTION

- NOTES
1. FILTER CLOTH SHALL HAVE APPROVED BACKING OR A BUILT-IN REINFORCED STRUCTURE, AS RECOMMENDED BY THE MANUFACTURER TO SUPPORT THE FILTER CLOTH.
 2. A PREASSEMBLED SILT FENCE MEETING THE REQUIREMENTS OF THIS DRAWING IS ACCEPTABLE IN LIEU OF A FIELD CONSTRUCTED SILT FENCE.
 3. FOR STANDARD DUTY SILT FENCING USE GEOTEX 901SC FILTER CLOTH OR APPROVED EQUIVALENT; FOR HEAVY DUTY SILT FENCING USE GEOTEX 914SC FILTER CLOTH OR APPROVED EQUIVALENT.

4 TEMPORARY SILT FENCE
SCALE: N.T.S.



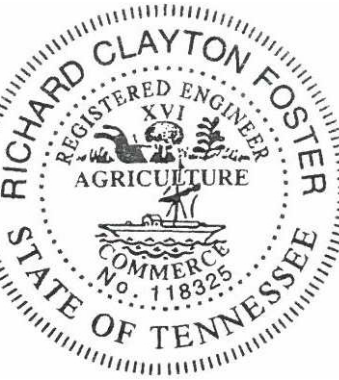
BARGE
DESIGN SOLUTIONS

615 3rd Avenue South / Suite 700 / Nashville, Tennessee 37210
PHONE (615) 254-1800 / FAX (615) 254-6572

STANDARD DETAILS

CRITZ LANE UTILITY RELOCATION
FOR THE
TOWN OF THOMPSON'S STATION, TENNESSEE
THOMPSON'S STATION, TENNESSEE

REVISION INFORMATION		DATE	DESCRIPTION
CHK.	MDN	11/06/2020	ISSUED FOR BID
DR.	RCF		
REV.	0		



STANDARD DETAILS
 CRITZ LANE UTILITY RELOCATION
 FOR THE
 TOWN OF THOMPSON'S STATION, TENNESSEE
 THOMPSON'S STATION, TENNESSEE

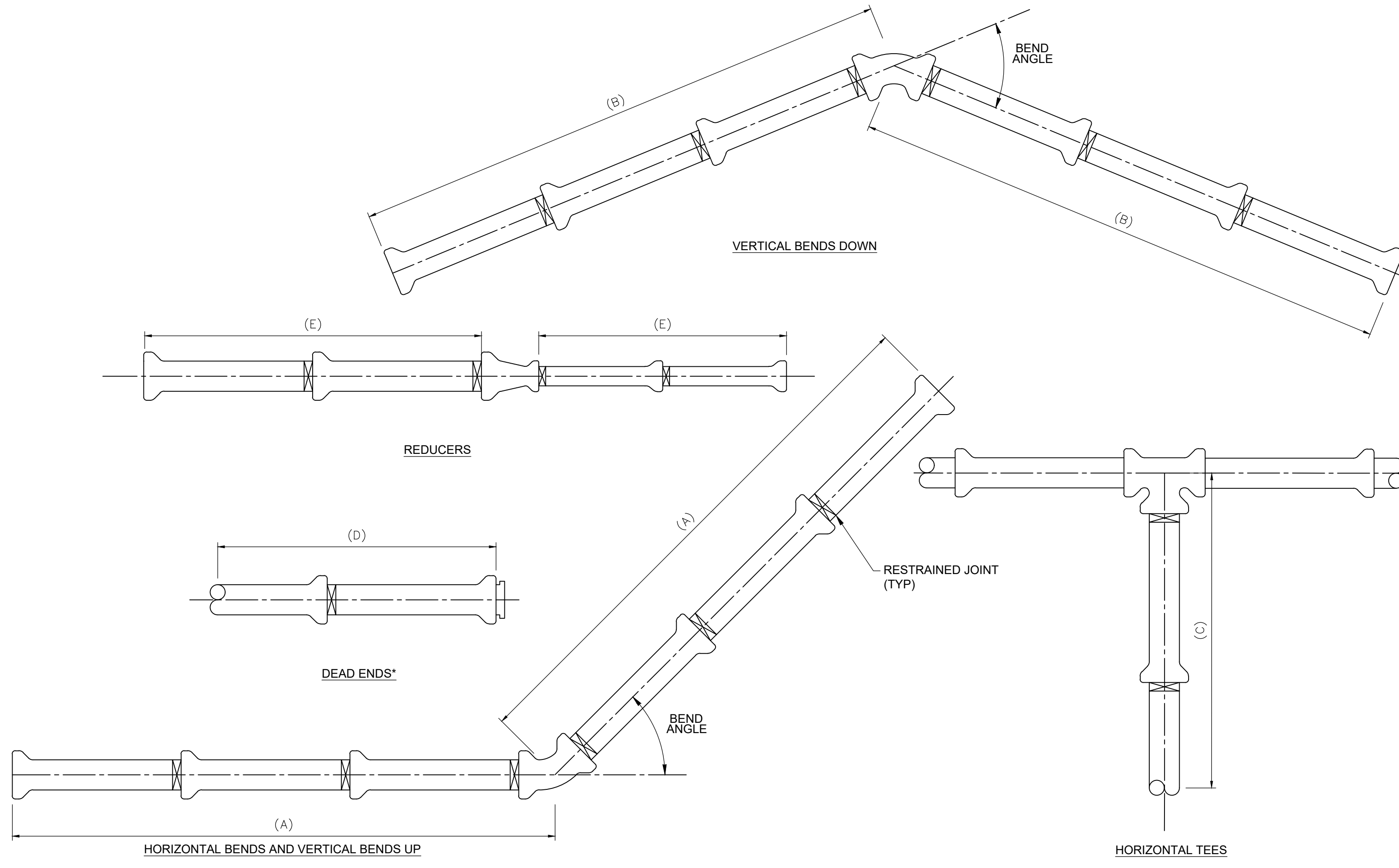


TABLE OF LENGTHS REQUIRING JOINT RESTRAINT FOR DUCTILE IRON PIPE

NOMINAL PIPE DIAMETER (INCHES)	PRESSURE CLASS	(A) HORIZONTAL BENDS AND VERTICAL-UP BENDS AS FUNCTION OF BEND ANGLE				(B) VERTICAL-DOWN BENDS AS FUNCTION OF BEND ANGLE			(C) HORIZONTAL TEE BASED ON BRANCH SIZE	(D) DEAD ENDS * RESTRAINED LENGTH, FT.	REDUCERS		
		11.25°	22.5°	45°	90°	11.25°	22.5°	45°			LARGER PIPE SIZE, IN	SMALLER PIPE SIZE, IN	(E) RESTRAINED LENGTH, FT
		RESTRAINED LENGTH, FT.	RESTRAINED LENGTH, FT.	RESTRAINED LENGTH, FT.	RESTRAINED LENGTH, FT.	RESTRAINED LENGTH, FT.	RESTRAINED LENGTH, FT.	RESTRAINED LENGTH, FT.					
6	350	4	7	15	34	7	14	29	35	35	6	4	18
8	350	5	9	19	46	9	18	38	46	46	8	6	20
10	350	7	13	27	65	13	24	55	66	66	10	8	35
12	350	7	13	27	65	13	24	55	66	66	12	8	35
16	350	9	17	36	85	18	31	73	87	87	16	12	37
24	330	13	25	52	124	26	31	107	129	129	24	16	71

BASED ON "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE", 6TH EDITION, 2006, DIPRA
 ALL VALVES SHALL BE RESTRAINED AS A DEAD END BOTH SIDES OF THE VALVE

NOTES:

- ALL PIPE JOINTS THAT FALL WITHIN THE RESTRAINED LENGTHS SHOWN FOR THE VARIOUS CONFIGURATIONS SHALL BE RESTRAINED JOINTS. JOINT RESTRAINING GASKETS ARE ACCEPTABLE; MECHANICAL JOINTS SHALL HAVE RETAINER GLANDS.
- THE RESTRAINED LENGTHS SHOWN ARE BASED ON THE FOLLOWING CONDITIONS. IF FIELD CONDITIONS VARY FROM THESE CONDITIONS, CONSULT WITH THE DESIGN ENGINEER OR THE OWNER'S FIELD REPRESENTATIVE.
- RESTRAINED JOINT PIPE FALLING WITHIN STEEL CASING SHALL BE DEDUCTED FROM THE INSTALLED RESTRAINED JOINT PIPE LENGTH USED TO MEET THE REQUIRED LENGTH ABOVE.

SOIL TYPE: CLAY
 LAYING CONDITIONS: 5
 DEPTH OF COVER: 3 FEET MINIMUM
 TEST PRESSURE: 200 PSI
 SAFETY FACTOR: 2.0
 POLYETHYLENE ENCASEMENT: NONE

STANDARD ANSII/AWWA C150/A21.50 LAYING CONDITIONS FOR DUCTILE IRON PIPE

TYPE	DESCRIPTION
2	FLAT-BOTTOM TRENCH. BACKFILL LIGHTLY CONSOLIDATED TO CENTER LINE OF PIPE.
3	PIPE BEDDED IN 4-IN MIN. LOOSE SOIL. BACKFILL LIGHTLY CONSOLIDATED TO TOP OF PIPE.
4	PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO DEPTH OF 1/8 PIPE DIA., 4-IN MIN.
5	BACKFILL COMPACTED TO TOP OF PIPE. (~90% STANDARD PROCTOR.) PIPE BEDDED TO ITS CENTERLINE IN COMPACTED GRANULAR MATERIAL, 4-IN MIN. UNDER PIPE. COMPACTED GRANULAR OF SELECT MATERIAL TO TOP OF PIPE. (~90% STANDARD PROCTOR.)

1 RESTRAINED JOINTS
 SCALE: N.T.S.

REVISION INFORMATION		DATE	DESCRIPTION
CHK.	MDN.	11/06/2020	ISSUED FOR BID
DR.	RCF.		
REV.	0		

PROJECT MANUAL

DOCUMENTS AND SPECIFICATIONS

Critz Lane Utility Relocation

Town of Thompson's Station, Tennessee

Approved by:



WASTEWATER PLANT OPERATOR,
TOWN OF THOMPSON'S STATION

11-16-20

Date



Barge NO.: 36724-05
November 2020

615 3rd Avenue South, Suite 700
Nashville, TN 37210
615-254-1500

BARGE
DESIGN SOLUTIONS

SPECIFICATIONS

Section Title

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00 11 16	Advertisement for Bids
00 21 13	Instructions to Bidders
00 41 00	Bid Form
00 43 13	Bid Bond
00 45 13	Statement of Bidder's Qualifications
00 45 19	Non-Collusion Affidavit of Prime Bidder
00 45 47	Iran Divestment Act Compliance Certification
00 45 53	Corporate Certificate
00 45 63	Drug Free Workplace Affidavit
00 45 73	Attestation Regarding Personnel Used in Contract Performance
00 45 77	Contractor's License Certification
00 52 00	Agreement
00 61 13.13	Performance Bond
00 61 13.16	Payment Bond
00 72 00	General Conditions
00 73 00	Supplementary Conditions

Division 01 - General Requirements

01 11 00	Summary of Work
01 22 00	Measurement and Payment
01 25 00	Substitution Procedures
01 26 20	Weather Delays
01 32 16	Construction Schedules
01 33 00	Submittal Procedures
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01 45 29	Testing Laboratory Services
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01 65 00	Product Delivery Requirements
01 66 00	Product Storage and Handling Requirements
01 71 23.13	Construction Layout
01 74 00	Cleaning and Waste Management
01 78 39	Record Documents

Division 31 – Earthwork

31 11 00	Clearing and Grubbing
31 23 33	Trenching and Backfilling

Division 32 – Exterior Improvements

32 92 19	Seeding
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Division 33 – Utilities

33 05 23.16 Utility Pipe Jacking

33 05 61 Manholes

33 34 00 Sewer Forcemains

Division 40 – Process Integration

40 05 78 Air Valves

CRITZ LANE UTILITY RELOCATION
TOWN OF THOMPSON'S STATION
THOMPSON'S STATION, TENNESSEE

Sealed Bids for furnishing all materials, labor, tools, equipment and appurtenances necessary for the construction of the Critz Lane Utility Relocation will be received at Thompson's Station Community Center, 1555 Thompson's Station Road West, Thompson's Station, Tennessee 37179, until 10:00 a.m., local time, on January 28, 2021, and then at said location publicly opened and read aloud.

The Project consists of installing approximately 1,500 feet of 10" force main and 1,500 feet of 12" by open cut and approximately 50 feet of 10" force main and 50 feet of 12" force main by jack and bore under Critz Lane.

The Instructions to Bidders, Bid, Contract Agreement, Drawings, Specifications and forms of Bid Bond, Performance Bond, Payment Bond and other Contract Documents may be examined at the following:

Barge Design Solutions, Inc.
615 3rd Avenue South, Suite 700
Nashville, Tennessee 37210
615-254-1500

Printed copies of bidding Documents may be obtained from Bidding.BargeDesign.com. For questions about ordering documents, call Lellyett and Rogers at 615-250-9145. Call prior to picking up documents to ensure availability. Partial sets of Bidding Documents will not be available directly from the Issuing Office. Neither Owner nor Engineer will be responsible for full or partial sets of bidding Documents including Addenda, if any, obtained from sources other than the Issuing Office. No part of the purchase will be refunded.

Each Bid must be accompanied by a Bid Bond, prepared on the form of Bid Bond attached to the Contract Documents or a Surety Company's Standard Bid Bond, duly executed by the Bidder as principal and having as surety thereon a surety company licensed to do business in the State of Tennessee and listed as a certified company in the latest issue of U.S. Treasury Circular 570, in the amount of five percent of the Bid.

No bid may be withdrawn within 120 calendar days after the scheduled time for receipt of bids.

All bidders must be licensed and shall comply with all requirements of the State of Tennessee Contractor's Licensing Act.

The Owner will in no way be liable for any costs incurred by any bidder in the preparation of its Bid in response to this Invitation to Bid.

The successful Bidder for this Contract will be required to furnish a satisfactory Performance Bond and Payment Bond each in the amount of 100 percent of the Bid.

The Owner reserves the right to reject any or all Bids, to waive informalities and to readvertise.

TOWN OF THOMPSON'S STATION, TENNESSEE
Corey Napier
Mayor, Town of Thompson Station

END OF SECTION

ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. The issuing office for this Project is Barge Design Solutions, Inc., 615 3rd Avenue South, Suite 700, Nashville, TN 37210.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the advertisement or invitation to bid may be obtained from the Issuing Office, or its designated printing facility, as indicated in the Advertisement for Bids.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 The minimum qualifications of a responsible Bidder include the following requirements:
- A. The Bidder shall maintain a permanent place of business. This requirement applies to the Bidder where the Bidder is a division of a corporation, or where the Bidder is 50 percent or more owned by a person, corporation or firm.
- B. The Bidder is licensed by the State of Tennessee to perform the work under this contract.
- C. The Bidder shall demonstrate adequate construction experience and sufficient equipment resources to properly perform the work under and in conformance with the Contract Documents. This evaluation will be based upon a list of completed or active projects and a list of construction equipment available to the Bidder to perform the work. 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 reasonably 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 Contract and to complete the Project contemplated therein. Adequate construction experience, for the purposes of this Project, shall mean:

Instructions to Bidders

1. The Bidder has successfully completed construction of at least five similarly sized liner projects within the last 5 years.
 - D. The Bidder shall demonstrate financial resources of sufficient strength to meet the obligations incident to the performance of the work covered by these Contract Documents. The ability to obtain the required Performance and Payment Bonds will not alone demonstrate adequate financial capability.
 - E. The Bidder shall demonstrate that he is familiar with the work covered by these Contract Documents.
- 3.02 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit with the Bid written evidence such as previous experience, present commitments, and such other data as may be called for below.
- A. Completion of Statement of Bidder's Qualifications, as included elsewhere in this Project Manual.
 - B. Bidder's Tennessee contractor license number and classification.
- 3.03 To demonstrate Bidder's qualifications to perform the Work, within three days of Owner's request, Bidder shall submit written evidence such as financial data and such other data as may be requested by Owner.
- 3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.
- 3.05 A Bidder may be deemed as not responsible if:
- A. Bidder fails to furnish adequate information for the Owner to determine if the Bidder is deemed to possess adequate construction experience and sufficient equipment resources or fails to provide such information in a timely manner.
 - B. Bidder fails to furnish information, evidence, and statements of the principal owner when the Bidder is owned 50 percent or more by another firm, corporation, or person.
 - C. Bidder is in arrears on any existing contracts, interested in any litigation against the Owner or has defaulted on a previous contract.
 - D. Bidder fails to have access to adequate equipment.
 - E. Bidder has uncompleted work which in the judgment of the Owner will hinder or prevent prompt completion of additional work, if awarded.
- 3.06 Acceptance of the Bidder's documentation and substantiation or Contract Award by the Owner does not relieve the Bidder of liability for non-performance as covered in the Contract Documents, nor will the Bidder be exempted from any other legal recourse the Owner may elect to pursue.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE**4.01 *Subsurface and Physical Conditions***

- A. The Supplementary Conditions identify:
1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.
 2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.02 *Underground Facilities*

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03 *Hazardous Environmental Condition*

- A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.
- B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

- 4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not

Instructions to Bidders

shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

- 4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.
- 4.06 Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.
- 4.07 It is the responsibility of each Bidder before submitting a Bid to:
- A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
 - B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
 - C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
 - D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data";
 - E. consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;
 - F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
 - H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
 - I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – PRE-BID CONFERENCE

- 5.01 A Pre-Bid Conference will be held if so indicated in the Advertisement for Bids. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 6 – SITE AND OTHER AREAS

- 6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed, delivered or otherwise issued to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.
- 7.03 Questions and other inquiries shall be submitted to the Issuing office, Attention Clayton Foster, clayton.foster@bargedesign.com.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five percent of Bidder's maximum Bid price and in the form of a Bid bond (on the form attached or on a surety company's standard bid bond form) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 8.02 If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within ten days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.
- 8.03 Attorneys-in-Fact of other officers who sign bid bonds for a surety company must file with such bonds a certified copy of his power of attorney authorizing him to sign said bonds.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents. No substitution requests will be considered.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute without an increase in the Bid.
- 12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no

written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

- 12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- 13.02 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item and alternate item listed therein. In the case of optional alternatives, the words “No Bid,” “No Change,” or “Not Applicable” may be entered.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.
- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.06 A Bid by an individual shall show the Bidder’s name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.08 All names shall be printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

ARTICLE 14 – BASIS OF BID; COMPARISON OF BIDS

14.01 *Lump Sum and Unit Prices*

- A. Bidders shall submit a bid on a lump sum or unit price basis, as indicated on the Bid schedule, for each item of Work listed in the Bid schedule.

Instructions to Bidders

- B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.02 *Allowances*

- A. For cash allowances the various other Bid prices shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 11.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

15.01 The Bid Form is to be completed and submitted with the Bid security along with the documents listed below. The Bidder shall submit one original of all documents in the envelope.

- A. Statement of Bidders Qualifications
- B. Non-Collusion Affidavit of Prime Bidder
- C. Iran Divestment Act Compliance Certification
- D. Corporate Certificate
- E. Contractor's License Certification
- F. Drug-Free Workplace Affidavit
- G. Attestation Regarding Personnel Used in Contract Performance

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement for Bids and shall be enclosed in a sealed envelope which shall also contain the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the place indicated in the Advertisement for Bids.

15.03 The Bidder shall comply with Tennessee Code Annotated (TCA) Chapter 6 of Title 62, hereby incorporated by reference. The Bidder shall provide on the outside of the envelope containing the Bid:

- A. The name, license number, expiration date thereof, and license classification of the contractor applying to the bid for the prime contract;

- B. The name, license number, expiration date thereof, and license classification of the contractor applying to the bid for the masonry contract where the total cost of the materials and labor for the masonry portion of the construction project exceeds one hundred thousand dollars;
- C. The name, license number, expiration date thereof, and license classification of the contractor applying to the bid for the electrical, plumbing, heating, ventilation and air conditioning contracts except where such contractor's portion of the construction project is less than twenty-five thousand dollars;
- D. For each vertical closed loop geothermal heating and cooling project, the company name, department of environment and conservation license number, classification (G, L or G,L) and the expiration date, except when the geothermal portion of the construction project is in an amount less than twenty-five thousand dollars;
- E. Prime contractor bidders who are to perform the masonry portion of the construction project which exceeds one hundred thousand dollars, materials and labor, the electrical, plumbing, heating, ventilation and air conditioning or the geothermal heating and cooling shall be so designated; and
- F. Only one contractor in each of the classifications listed above shall be written on the bid envelope.

Failure of any Bidder to furnish the required information void such bid and such bid shall not be considered.

- 15.04 In addition to the requirements of Article 15.02 above, the Bidder shall provide on the outside of the envelope containing the bid the Bidder's name and "Bid for Critz Lane Utility Relocation".

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.
- 16.03 A bid may be withdrawn after the time period stated in the Advertisement for Bids after the date of the opening of the bids, provided that the Bidder has not been notified within said time period that his bid has been accepted.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the

amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Advertisement for Bids, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 A bid may be declared by the Owner to be non-responsive for, but not limited to, any of the following reasons:

- A. Bid contains blanks, Proposal is not complete or required accompanying documents, certifications, and statements are not included.
- B. Bid contains modifications or alterations of the Bid Form or other Contract Documents.
- C. Bid is a qualified or conditional bid.
- D. Bid contains unrealistic data, erroneous data, inaccurate data, or data that cannot be documented or substantiated.

19.05 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.06 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.

- 19.07 The Contracts will be awarded to the responsive, responsible Bidders submitting the lowest Bid complying with the conditions of the Contract Documents. Award will be made on the basis of the prices given in the Bid.

ARTICLE 20 – CONTRACT SECURITY AND INSURANCE

- 20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner or Engineer issues a Notice of Award to the Successful Bidder, the Notice of Award will be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents, which are identified in the Agreement as attached thereto. Within ten days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.
- 21.02 Upon failure of the Bidder to execute the required bonds or to sign the required contract within ten days after the contract is awarded, he will be considered to have abandoned his proposal and the Owner may annul the award. By reason of the uncertainty of market prices of materials and labor, and it being impracticable and extremely difficult to fix the amount of damages to which the Owner would be put by reason of said Bidder's failure to execute said bonds and contract within ten days, the bid security accompanying the proposal shall be the agreed amount of damages which the Owner will suffer by reason of such failure on the part of the Bidder and shall thereupon immediately be forfeited to the Owner. The filing of a proposal will be considered as an acceptance of this provision.

ARTICLE 22 – DELETED

ARTICLE 23 – RETAINAGE

- 23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

ARTICLE 24 – DELETED

ARTICLE 25 – DELETED

ARTICLE 26 – PERMITS, EASEMENTS AND RIGHTS-OF-WAY

- 26.01 All anticipated federal, state, or local permits required for the Project, which are the responsibility of the Owner, have been obtained.
- 26.02. All rights-of-way and easements required for the Project, which are the responsibility of the Owner, have been obtained.

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1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

Associated General Contractors of America
2300 Wilson Boulevard, Suite 400, Arlington, VA 22201-3308
(703) 548-3118
www.agc.org

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CRITZ LANE UTILITY RELOCATION

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Town of Thompson’s Station
1550 Thompson’s Station Road West
Thompson’s Station, Tennessee 37179

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for period of time after the Bid opening as stated in the Advertisement for Bids, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating

- to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in SC-4.02 as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in SC-4.06 as containing reliable "technical data."
- E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.
 - F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
 - G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
 - H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
 - I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
 - J. Where this Bid Form contains the provision for a bid based on a lump sum price, the Bidder shall be responsible for having prepared its own estimate of the quantities necessary for the satisfactory completion of the Work specified in these Contract Documents and for having based the lump sum price bid on its estimate of quantities.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
1.	Mobilization	1	LS	\$ 5,000.00	\$ 5,000.00
2.	10" Force Main Installation by Open Cut	1500	LF	\$ 40.00	\$ 60,000.00
3.	12" Force Main Installation by Open Cut	1500	LF	\$ 50.00	\$ 75,000.00
4.	Jack & Bore with 18" Steel Casing and 10" DIP Carrier Pipe	50	LF	\$ 500.00	\$ 25,000.00
5.	Jack & Bore with 20" Steel Casing and 12" DIP Carrier Pipe	50	LF	\$ 500.00	\$ 25,000.00
6.	2-inch Air/Vacuum Valve	2	EA	\$ 6,000.00	\$ 12,000.00
7.	10" Plug Valve	1	EA	\$ 4,500.00	\$ 4,500.00
8.	12" Plug Valve	1	EA	\$ 5,000.00	\$ 5,000.00
9.	Soils and Concrete Testing		ALLOWANCE		\$ 10,000.00
10.	Rock Excavation		ALLOWANCE		\$ 10,000.00

BID TOTAL, ITEMS 1 THROUGH 10, INCLUSIVE, THE AMOUNT OF Two Hundred Thirty-One Thousand Five Hundred DOLLARS (\$ 231,500.00).

Bidder acknowledges Unit Prices have been determined in accordance with Paragraph 11.03.C of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Bid Bond
 - B. Statement of Bidders Qualifications
 - C. Non-Collusion Affidavit of Prime Bidder
 - D. Iran Divestment Act Compliance Certification
 - E. Corporate Certificate
 - F. Contractor's License Certification
 - G. Drug-Free Workplace Affidavit
 - H. Attestation Regarding Personnel Used in Contract Performance

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid submitted by:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's Signature)

Doing business as: _____

Attest: _____
(Notary)

Name (typed or printed): _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): _____

Attest: _____
(Signature of another Partner)

Name (typed or printed): _____

A Corporation

Corporation Name: Hughes Excavating, LLC (SEAL)

State of Incorporation: Tennessee

Type (General Business, Professional, Service, Limited Liability): LLC

By: Jacqueline W. Hughes
(Signature and Seal on file)

Title: Single Member
(CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Name (typed or printed): _____

A Joint Venture

Name of Joint Venturer: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

All Bidders shall complete the following:

Bidder's Business address: 7596 South Harpeth Rd

Primm Springs, Tennessee 38476

Phone: 615-390-0042 Facsimile: _____

Primary Contact: Randy Hughes

Primary Contact E-mail: Hughes_excavating_llc@hotmail.com

Submitted on: January 28, 2021.

This document was prepared in part from material (EJCDC C-410 Suggested Bid Form for Construction Contracts) which is copyrighted as indicated below:

Copyright © 2007 National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

Associated General Contractors of America
2300 Wilson Boulevard, Suite 400, Arlington, VA 22201-3308
(703) 548-3118
www.agc.org

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 **AIA** Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

Hughes Excavating, LLC
7596 S Harpeth Road
Primm Springs, Tennessee 38476

SURETY:

(Name, legal status and principal place of business)

National American Insurance Company
1010 Manvel Avenue
P.O. Box 9
Chandler, Oklahoma 74834

OWNER:

(Name, legal status and address)

Town of Thompson's Station
1550 Thompson's Station Road West
Thompson's Station, Tennessee 37179

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

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.

PROJECT:

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

1500 LF 10" PVC Sewer Force Main, 1500 LF 12" PVC Sewer Force Main, 2-50 Ft Road Bores (1 - 20" and 1 - 18")
Thompson's Station, Tennessee


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 Twenty-Eighth day of January, 2021


(Witness)


(Witness) Samantha Whitlow, Account Manager

Hughes Excavating, LLC
(Principal)  *(Seal)*

National American Insurance Company
(Surety)  *(Seal)*
(Title) Pamela Puskarich, Attorney-in-Fact

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

NATIONAL AMERICAN INSURANCE COMPANY
CHANDLER, OKLAHOMA
POWER OF ATTORNEY

Number: CBB0058888

DUPLICATES SHALL HAVE THE SAME FORCE AND EFFECT AS AN ORIGINAL ONLY WHEN ISSUED IN CONJUNCTION WITH THE ORIGINAL.

KNOW ALL MEN BY THESE PRESENTS: That the National American Insurance Company, a corporation duly organized under the laws of the State of Oklahoma, having its principal office in the city of Chandler, Oklahoma, pursuant to the following resolution, adopted by the Board of Directors of the said Company on the 8th day of July, 1987, to wit:

"Resolved, that any officer of the Company shall have authority to make, execute and deliver a Power of Attorney constituting as Attorney-in-fact, such persons, firms, or corporations as may be selected from time to time.

Resolved that nothing in this Power of Attorney shall be construed as a grant of authority to the attorney(s)-in fact to sign, execute, acknowledge, deliver or otherwise issue a policy or policies of insurance on behalf of National American Insurance Company.

Be It Further Resolved, that the signature of any officer and the Seal of the Company may be affixed to any such Power of Attorney or any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such powers so executed and certified by facsimile signature and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond and documents relating to such bonds to which it is attached."

National American Insurance Company does hereby make, constitute and appoint

James L. Noe, III; Stephanie Richardson; Andrew Bennett;
Craig M. Whitlow, Pamela D. Puskarich; Jason Scott Jessie; Alison N. Lyons,
Charles Myers, James T. Myers

its true and lawful attorney(s)-in-fact, with full power and authority hereby conferred in its name, places and stead, to sign, execute, acknowledge and deliver in its behalf, and its act and deed, as follows:

The authority of said Attorney-in-fact to bind the company shall not exceed \$4,000,000 for any single bond.

And to bind National American Insurance Company thereby as fully and to the same extent as if such bonds and documents relating to such bonds were, signed by the duly authorized officer of the National American Insurance Company, and all the acts of said Attorney(s) pursuant to the authority herein given, are hereby ratified and confirmed.

IN WITNESS WHEREOF, the National American Insurance Company has caused these presents to be signed by any officer of the Company and its Corporate Seal to be hereto affixed.



NATIONAL AMERICAN INSURANCE COMPANY

Handwritten signature of W. Brent LaGere in black ink.

W. Brent LaGere, Chairman & Chief Executive Officer

STATE OF OKLAHOMA)
COUNTY OF LINCOLN) SS:

On this 26th day of September, A.D. 2017, before me personally came W. Brent LaGere, to me known, who being by me duly sworn, did depose and say; that he resides in the County of Lincoln, State of Oklahoma; that he is the Chairman and Chief Executive Officer of the National American Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name, thereto by like order.



Handwritten signature of Janet Taylor in black ink.

Notary Public
My Commission Expires April 08, 2022
Commission #02006203

STATE OF OKLAHOMA)
COUNTY OF LINCOLN) SS:

I, the undersigned, Assistant Secretary of the National American Insurance Company, an Oklahoma Corporation, DO HEREBY CERTIFY that the foregoing and attached POWER OF ATTORNEY remains in full force.

Signed and Sealed at the City of Chandler.

Dated the 28TH day of JANUARY, 2021



Handwritten signature of Joyce M. Seitz in black ink.

Joyce M. Seitz, Assistant Secretary

Statement of Bidder's Qualifications

All questions must be answered, and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information desired. Attach all additional sheets to this statement. (Sample "Project Information Form" contained at the end of this Section.)

1. Name of Bidder: Hughes Excavating, LLC
2. Permanent main office address and phone number: 7596 South Harpeth Road,
Primm Springs, Tennessee 38476 615-390-0042
3. When organized: 11/30/2003
4. If a Corporation, where incorporated: Tennessee
5. How many years have you been engaged in the contracting business under your present firm or trade name? 18 years
6. Contracts on hand. (Complete a "Project Information Form", or provide same required information in a similar format, for each Contract on hand.) Contract 120 – Critz Lane Transmission Main – Phase 3
7. General description of type of work performed by your company: Underground utilities
8. Have you ever failed to complete any work awarded to you? If so, where and why? No
9. Have you ever defaulted on a contract? If so, where and why? No
10. Attach a list of the most important projects recently completed by your company which are similar in scope to this Project. (Complete a "Project Information Form", or provide same required information in a similar format, for each Project listed.)
11. Names, background and experience of the principal members of your organization, including officers:

Name	Position	Years' Experience
Randy Hughes	Project Manager	25+
Jacqueline Hughes	Office Manager	25+

Statement of Bidder's Qualifications

12. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications.

I, Jacqueline W. Hughes, certify that I am Single Member-Manager of the Bidder, and that the answers to the foregoing questions and statements contained therein are true and correct.

BIDDER: Hughes Excavating, LLC

By: Jacqueline W. Hughes
(Signature on file)

Title: Single Member - Manager

Date: January 27, 2021

Subscribed and sworn to me this 27th day of January, 2021.

NOTARY PUBLIC: Kelsey Whitman
(Signature and Seal on file)

Commission Expires: 9/22/21
(Date)

(SEAL)

Project Information Form

Project Title: Littlebury Subdivision, Thompson's Station, Tennessee

Project Description: Furnished and installed 3,000 LF 8" ductile iron water line, 32 services,
4 fire hydrants, 16" road bore, etc. Furnished and installed 1,000 LF 12" ductile iron water line.

Major Subcontractors: Marty Woodside

Major Suppliers: Consolidated Pipe and Supply Co., Inc.
615-240-4286

Project Owner:

- Owner Name: Suggs Excavating, LLC
- Contact Person: Jeff Suggs
- Phone Number: 615-525-4772

Engineer/Construction Manager:

- Company Name: James C. Hailey & Company
- Contact Person: Jimmy Hailey
- Phone Number: 615-883-4399

Contract Amount:

- Initial: \$423,810.47
- Final: \$429,810.47

Contract Time

- Initial: 90 days
- Final: 60 days
- Completion Date: 11/10/2020

END OF SECTION

Non-Collusion Affidavit of Prime Bidder

STATE OF Tennessee

COUNTY OF Williamson

I, Kelsey Whitman, being first duly sworn, deposes and says that:

She is Jacqueline W. Hughes of Hughes Excavating, LLC, the Bidder that has submitted the attached Bid;

She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

Such Bid is genuine and is not a collusive or sham Bid;

Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this Affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against Town of Thompson's Station or any person interested in the proposed Contract; and

The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this Affiant.

BIDDER: Hughes Excavating, LLC

By: Jacqueline W. Hughes

(Signature on file)

Title: Single Member - Manager

Date: January 27, 2021

Subscribed and sworn to me this 27th day of January, 2021

NOTARY PUBLIC: Kelsey Whitman

(Signature and Seal on file)

Commission Expires: 9/22/21

(SEAL)

END OF SECTION

Iran Divestment Act Compliance Certification

In accordance with Tennessee Code Annotated (TCA) § 12-12-101 *et. seq.*, by submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to TCA § 12-12-106.

SIGNATURE: Jacqueline W. Hughes
(Signature on file)

COMPANY: Hughes Excavating, LLC

DATE: January 27, 2021

Section 00 45 53
Corporate Certificate

I, _____, certify that I am the Secretary of the Corporation named as Bidder in the foregoing Bid; that _____, who signed said Bid on behalf of the Contractor was then _____ of said Corporation; that said Bid was duly signed for and on behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers; that said Corporation is organized under the laws of the State of .

This 27th day of January, 2021.

Corporate Secretary: Jacqueline W. Hughes
(Signature on file)

(SEAL)

END OF SECTION

Drug-Free Workplace Affidavit

By signature on this certificate, the Contractor certifies that:

X It has a drug-free workplace program that complies with Tennessee Code Title 50 Chapter 9 – Drug-Free Workplace Programs which was in effect at the time of submission of this Bid, at least to the extent required of governmental entities.

X It has less than five employees receiving pay.

(Please indicate which one, or both, that are correct.)

Pursuant to Tennessee Code Annotated Section 50-9-114, by signature on this affidavit, the Contractor attests that it operates a drug-free workplace program, or other drug or alcohol testing program with requirements at least as stringent as that of the program operated by the Owner.

BIDDER: Hughes Excavating, LLC

By: Jacqueline W. Hughes
(Signature on file)

Title: Single Member - Manager

Date: January 27, 2021

END OF SECTION

Attestation Regarding Personnel Used in Contract Performance

Project Name: Critz Lane Utility Relocation

The Bidder/Contractor, identified below, does hereby attest, certify, warrant, and assure that the Contractor shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant in the performance of this Contract.

BIDDER/CONTRACTOR: Hughes Excavating, LLC

By: Jacqueline W. Hughes
(Signature on file)

Title: Single Member - Manager

Date: January 27, 2021

NOTICE: In accordance with Tennessee law, this attestation MUST be signed by an individual empowered to contractually bind the Contractor. If said individual is not the chief executive or president, this document shall attach evidence showing the individual's authority to contractually bind the Contractor.

END OF SECTION

Contractor's License Certification

Bidder

Contractor's Name: Hughes Excavating, LLC

License Number: 49711

License Classification: 1,500,000.00; MU-A; MU-C; MU-D

Expiration Date of License: November 30, 2021

Electrical Subcontractor (Same as on Outside Of Envelope)

Contractor's Name: _____

License Number: _____

License Classification: _____

Expiration Date of License: _____

Plumbing Subcontractor (Same as on Outside Of Envelope)

Contractor's Name: _____

License Number: _____

License Classification: _____

Expiration Date of License: _____

Heating, Ventilation and Air Conditioning Subcontractor (Same as on Outside of Envelope)

Contractor's Name: _____

License Number: _____

License Classification: _____

Expiration Date of License: _____

Masonry Subcontractor (Same as on Outside of Envelope)

Contractor's Name: _____

License Number: _____

License Classification: _____

Expiration Date of License: _____

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

BIDDER: _____ Hughes Excavating, LLC

By: _____ Jacqueline W. Hughes
(Signature on file)

Title: _____ Single Member – Manager

Date: _____ January 27, 2021

END OF SECTION

THIS AGREEMENT is by and between Town of Thompson's Station ("Owner") and Hughes Excavating, LLC ("Contractor")

Owner and Contractor agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Critz Lane Utility Relocation

ARTICLE 2 – THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

Critz Lane Utility Relocation

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by Barge Design Solutions, Inc. (Engineer), which is to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Days to Achieve Substantial Completion and Final Payment*

A. The Work will be substantially completed within 90 consecutive calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 120 consecutive calendar days after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly,

instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$1000.00 for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$250.00 for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A below:
- A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit, the sum of which is Two Hundred Thirty-One Thousand, Five Hundred (Dollars) (\$231,500.00)

ARTICLE 6 – PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

- A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment submitted monthly by a day of the month established at the Pre-Construction Conference during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.
1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.
 - a. 95 percent of Work completed (with the balance being retainage); and
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST

- 7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of one half percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."
 - E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly

- required by the Contract Documents; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
 - G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
 - H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
 - I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to 7, inclusive).
 - 2. Performance bond (pages 1 to 2, inclusive).
 - 3. Payment bond (pages 1 to 3, inclusive).
 - 4. General Conditions (pages 1 to 81, inclusive).
 - 5. Supplementary Conditions (pages 1 to 4, inclusive).
 - 6. Specifications as listed in the table of contents of the Project Manual.
 - 7. Drawings as listed on the Drawing Index, with each sheet bearing the following general title: Critz Lane Utility Relocation.
 - 8. Addenda (numbers _____ to _____, inclusive), incorporated herein.
 - 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages 1 to 8, inclusive), as shown in Section 00 41 00 of this Project Manual.
 - 10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed.

- b. Work Change Directives.
- c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 Assignment of Contract

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

- A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on ____ day of _____, 20 ____, (which is the Effective Date of the Agreement).

OWNER:

Town of Thompson's Station
1550 Thompson's Station Road West
Thomson's Station, Tennessee 37179

By: _____

Title: _____

Attest: _____

Title: _____

Address for giving notices:

CONTRACTOR

Hughes Excavating, LLC
7596 S Harpeth Road
Primm Springs, Tennessee 38476

By: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Title: _____

Address for giving notices:

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Performance Bond

CONTRACTOR (name and address):
Hughes Excavating, LLC
7596 S Harpeth Road
Primm Springs, Tennessee 38476

SURETY (name and address of principal place of business):
National American Insurance Company
1010 Manvel Avenue
P.O. Box 9
Chandler, Oklahoma 74834

OWNER (name and address):
Town of Thompson's Station
1550 Thompson's Station Road West
Thompson's Station, Tennessee 37179

CONSTRUCTION CONTRACT

Effective Date of the Agreement: _____
Amount: \$231,500.00
Description: Critz Lane Utility Relocation

BOND

Bond Number: _____
Date (not earlier than the Effective Date of the Agreement of the Construction Contract): _____
Amount: \$231,500.00

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (attach power of attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) 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.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after Owner terminates for cause in accordance with General Conditions Paragraph 15.02.
4. Failure on the part of the Owner to comply with the notice requirement in General Conditions Paragraph 15.02 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 Paragraph 3, the Surety shall promptly and at the Surety's expense take the following action:
 - 5.1 Waive its right to perform and complete, to arrange for completion, or to obtain a new contractor, and with reasonable promptness under the circumstances:
 - 5.1.1 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
 - 5.1.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 6.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 6.2 additional legal, design professional, and delay costs resulting from the Contractor's Default; and
 - 6.3 liquidated damages caused by delayed performance or non-performance of the Contractor.
7. The Surety's liability is limited to the amount of this Bond.
8. 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.
9. 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.
10. 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 periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.
11. 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.
12. 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.
13. Definitions
 - 13.1 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 for the Contractor for 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.
 - 13.2 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.
 - 13.3 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.
 - 13.4 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.
 - 13.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

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CONTRACTOR (name and address):

Hughes Excavating, LLC
7596 S Harpeth Road
Primm Springs, Tennessee 38476

SURETY (name and address of principal place of business):

National American Insurance Company
1010 Manvel Avenue
P.O. Box 9
Chandler, Oklahoma 74834

OWNER (name and address):

Town of Thompson's Station
1550 Thompson's Station Road West
Thompson's Station, Tennessee 37179

CONSTRUCTION CONTRACT

Effective Date of the Agreement: _____
Amount: \$231,500.00
Description (name and location): Critz Lane Utility Relocation

BOND

Bond Number: _____
Date (not earlier than the Effective Date of the Agreement of the Construction Contract): _____
Amount: \$231,500.00

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

_____ (seal)

Contractor's Name and Corporate Seal

_____ (seal)

Surety's Name and Corporate Seal

By: _____

Signature

By: _____

Signature (attach power of attorney)

Print Name

Print Name

Title

Title

Attest: _____

Signature

Attest: _____

Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) 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 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 Paragraph 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 Paragraph 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,
 - 5.1.1 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
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 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 Paragraph 13).
6. If a notice of non-payment required by Paragraph 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 Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 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 Paragraph 7.1 or 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 Paragraph 7.1 or 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 Paragraph 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 Paragraph 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 requests 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 of "labor, materials, or equipment" that part of the 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.

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**STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



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STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
 12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop

Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.

16.1 Designer - The individual or entity named as such in the Agreement, if a different person or entity from Engineer.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined. The term Drawings shall be considered synonymous with the term Plans.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 01 of the Specifications. The General Requirements are applicable to all Sections of the Specifications and to the entire Work.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

25.1 Liquidated Damages – amounts shall be as stipulated in the Agreement. Liquidated damages shall apply to the Contract Times for the Project. Liquidated Damages shall be both additive and cumulative. Liquidated Damages shall end upon Substantial Completion, Completion of the Work associated with each Milestone Date, and upon final completion of the Work. Liquidated damages are not a penalty, but constitute liquidated damages for loss to the Owner because of increases in expenses for administration, legal counsel, accounting, engineering, construction supervision, inspection, and any other expenses incurred directly as a result of the delay of the Contractor in completing the work. This provision for liquidated damages shall be effective between the parties ipso facto without necessity for demand or putting in default by any notice or other means than by the terms of these Contract Documents, the Contractor hereby waiving any such other notice of default and acknowledging that the Contractor shall be deemed to be in default by the mere act of his failure to complete the work within the Contract Time, or within any valid extension of such time hereunder.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed. The Owner may designate an authorized representative to exercise the authority, in whole or in part, identified in these contract Documents, with such designation being identified in the Supplementary Conditions.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the its table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. *Shop Drawings*—All drawings, diagrams, illustrations, brochures, schedules, specified design related submittals, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work that will be fabricated or installed. Shop drawings may also mean detail drawings, working drawings, construction drawings, and engineering data.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents to provide the following: (i) the Owner full time, uninterrupted, continuous operation of the work; and (ii) all required functional, performance, and operational or startup testing has been successfully demonstrated for all components, devices, equipment, and systems to the satisfaction of the Engineer in accordance with the requirements of the Specifications; and (iii) all required inspections and other work necessary for the Engineer to certify "substantially complete" have been completed. ~~, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended.~~ The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
- 44.1 Submittals – All administrative documents, Shop Drawings, Samples, product data, manufacturer's literature, quality control documents, design related documents, record documents, contract close-out documents, and/or any other specified document prepared or assembled by or for Contractor and submitted by Contractor to the Owner and/or Engineer.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, materials, tools, equipment, incidentals, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

- A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

2. Where the word “similar” occurs in the Contract Document, it shall have a general meaning and not be interpreted as being identical, and all details shall be worked out in relation to their location and their connection with other parts of the Work.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor ~~and Owner~~ shall ~~each~~ deliver to the Owner~~either~~, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which Owner~~either of them~~ or any additional insured may reasonably request) which Contractor ~~is and Owner respectively are~~ required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

- A. Owner ~~shall will~~ furnish to Contractor up to ~~ten-four~~ printed or hard copies of the Drawings and Project Manual~~Contract Documents and one counterpart of the executed Contract Agreement~~. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

- A. ~~The~~ Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated date established in the Notice to Proceed. A Notice to Proceed may be given at any time within ~~30-60~~ days after the Effective Date of the Agreement. ~~In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.~~

2.04 Starting the Work

- A. Contractor ~~shall may~~ start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

- A. *Preliminary Schedules:* Within 10 days after the Commencement of the Contract Time~~Effective Date of the Agreement~~ (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 2. a preliminary Schedule of Submittals; which indicates each required Submittal and the dates for submitting, time for reviewing and processing each Submittal (periodic Submittals may be listed by a common monthly date); and
 3. a preliminary Schedule of Values for all of the Work in a format acceptable to the Engineer and in accordance with the requirements specified in the General Requirements, which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 Preconstruction Conference; Designation of Authorized Representatives

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties

as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 Initial Acceptance of Schedules

- A. ~~At least 10 days before submission of the first Application for Payment a~~ Not more than ten days after the preconstruction conference, a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer as being the Contractor's schedule for the if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor. The Progress Schedule may subsequently be adjusted in accordance with Paragraph 6.04 and applicable provisions of the General Requirements.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals. The Schedule of Submittals may subsequently be adjusted in accordance with Paragraph 6.04 and applicable provisions of the General Requirements.
 - 3. Contractor's Schedule of Values will be acceptable to the Engineer as to form and substance if it is provided in accordance with the General Requirements, provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS; INTENT, AMENDING, REUSE

3.01 Intent

- A. The individual components of the Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

- D. Each and every clause or other provision required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be amended to make such insertion.
- E. “Imperative” or “Command” type language is used in the Contract Documents. This command language refers to and is directed to the Contractor.
- F. Emphasis, such as italics, underlining, bold text or quotes, may have been used throughout the Contract Documents. Use of emphasis shall not change the meaning of the term emphasized.

3.02 Reference Standards

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3. All sections of governing standard specifications relating to measurement and payment shall not apply to the work specified herein.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies:

1. *Contractor’s Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor’s Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall

not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge or reasonably should have known thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).
2. In resolving inconsistencies within the Contract Documents, precedence shall be given in the following descending order:
 - a. Change Orders, with latest Change Order taking precedent over preceding Change Orders
 - b. Work Change Directives
 - c. Field Orders
 - d. Engineer's written interpretations and clarifications
 - e. Notice to Proceed
 - f. Addenda
 - g. Contract Agreement
 - h. Supplementary Conditions
 - i. General Conditions
 - j. Specifications
 - k. Drawings
 1. Schedules on Drawings
 2. Notes on Drawings

3. Details on Drawings

4. Large Scale Drawings

5. Small Scale Drawings

6. Dimensions given as Figures

7. Scaled Dimensions

I. Bidding Requirements

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 - 1. A Field Order; or
 - ~~2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or~~
 - 23. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 - 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's

sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

3.07 Contract Times

- A. All Contract Times and time limits stated in the Contract Documents are of the essence of the Agreement.
- B. The Contractor shall proceed with the Work at a rate of progress which will ensure completion within the Contract Times.
- C. It is expressly understood and agreed by and between the Contractor and the Owner, that the Contract Times for the Work described herein are reasonable time, taking into consideration the average climatic and economic conditions, and other factors prevailing in the locality of the Work.
- D. If the Contractor shall fail to perform the Work required within the Contract Times, or extended Contract Times if authorized by Change Order, then the Contractor shall pay to the Owner the full amount of liquidated damages specified in the Contract Documents for each calendar day that the Contractor shall be in default after the Contract Times stipulated in the Contract Documents.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports ~~known to Owner~~ of explorations and tests of subsurface conditions at or contiguous to the Site that have been utilized by the Engineer in preparing the Contract Documents; -and
2. those drawings ~~known to Owner~~ of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities that have been utilized by the Engineer in preparing the Contract Documents).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such

condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will-may be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew or should have known of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Field Order, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall/may be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

D. The dimensions and descriptions given on the Drawings for adjacent work by others, if any, (including any existing facilities or utilities previously constructed for Owner) are based on the design drawings and not as-built drawings. Prior to commencing the Work, the Contractor shall verify all as-built conditions and information whenever existing facilities or utilities may impact the Work. Failure of Contractor to so verify all as-built conditions prior to commencing the Work shall bar Contractor from later seeking additional compensation for conflicts with existing facilities or utilities.

E. Prior to the construction or installation of any proposed facility or pipeline, the Contractor shall expose all existing utilities true to their vertical and horizontal location, within the vicinity of the Work. In order to avoid conflicts between existing and proposed facilities or utilities, the Contractor shall either relocate the existing or proposed utility on a temporary or permanent

basis, or shall take whatever means necessary to protect the existing facilities or utilities during the installation of proposed utilities, as approved by the Engineer. No additional payment will be made for the relocation of existing utilities or for any work associated with the protection of existing facilities or utilities.

4.05 Reference Points

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.
- B. Engineer may check the lines, elevations, and reference marks set by Contractor, and Contractor shall correct any errors disclosed by such check. Such a check shall not be considered as approval of Contractor's work and shall not relieve Contractor of the responsibility for accurate construction of the entire Work. Contractor shall furnish personnel to assist Engineer in checking lines and grades.
- C. The Contractor shall review the Contract Documents and the Project site to determine the presence and location of any property or rights-of-way monuments or markers, and to assess the possibility of disruption to these monuments or markers. It will be the Contractor's responsibility to flag, erect guard post, or provide offset references for the protection or the re-monumentation of these property or rights-of-way monuments or markers. In the event these monuments or markers are covered over or disturbed, it will be the Contractor's responsibility to employ a surveyor licensed in the state of that the Project is located to re-establish those monuments or markers of property or rights-of-way, which were present prior to Work on the Project.
- D. It shall be the Contractor's responsibility to verify all reference points shown on the Contract Documents prior to beginning Work on the site. This verification shall be conducted by professionally qualified personnel in a manner which will verify the accuracy of the information shown in the Contract Documents. On projects which involve the connection to, or additions to existing structures, the elevations of these existing structures shall also be verified. Any findings which differ from those shown on the Contract Documents shall be submitted in writing to the Engineer for resolution.
- E. Additional surveys necessary for the construction staking shall be performed by the Contractor, the cost of which shall be incorporated into the appropriate items of Work. On projects in which payment is classified by depth of cut, the construction staking shall be performed in a manner that will allow for the determination of cut classification.

4.06 Hazardous Environmental Condition at Site

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may [issue a Work Change Directive or Change Order as appropriate regarding said condition.](#) ~~order the portion of the Work that is in the area affected by such condition to be deleted from the Work.~~ If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as

provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment ~~becomes due~~ is made by the Owner or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it

ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as ~~may be provided below in the Supplementary Conditions.~~

1. Surety shall be in good standing with the agency having jurisdiction over sureties and insurance companies for the state in which the Project is located.

2. Surety and Insurers must have an A.M. Best Financial Strength Rating of A or higher, with a Financial Size Category of X or higher.

3. The surety shall have an underwriting limitation in Circular 570 in excess of the Contract Amount.

4. No surety will be accepted who is now in default or delinquent on any bond.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

~~B. Deleted. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.~~

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 Contractor's Insurance

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 4. claims for damages insured by ~~reasonably~~ available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
 4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been

given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, ~~Owner~~Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof ~~(subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations)~~. This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
5. allow for partial utilization of the Work by Owner;
6. include testing and startup; and
7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

~~B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.~~

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

~~D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.~~

~~E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.~~

5.07 Waiver of Rights

A. Owner and Contractor intend that all policies purchased in accordance with Paragraphs 5.04 and 5.06 by Contractor will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. ~~Owner and Contractor waive all rights against each other and their respective officers, directors, members,~~

~~partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner/Contractor as trustee or otherwise payable under any policy so issued.~~

~~B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:~~

~~1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and~~

~~2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.~~

~~C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.~~

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers, ~~and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.~~

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If ~~either Owner or Contractor~~ has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by ~~the other party~~ Contractor in accordance with this Article 5 on the basis of ~~non-conformance~~ its not complying with the Contract Documents, ~~the objecting party shall so~~ Owner will notify ~~the other party~~ Contractor in writing thereof within 10 days ~~after receipt of the certificates (or other evidence requested) required by~~ of the date of delivery of such certificate to Owner in accordance with Paragraph 2.01.B. ~~Owner and~~ Contractor shall ~~each provide to the other~~ such additional information in respect of insurance provided by Contractor as ~~the other~~ Owner may reasonably request. ~~If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.~~

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner ~~chooses~~ finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, provide quality control, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Any method of work suggested by the Owner or Engineer, but not specified, shall be used at the risk and responsibility of the Contractor; and the Owner and Engineer will assume no responsibility therefore. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. Contractor shall also designate, in writing, a representative, hereinafter referred to as Project Manager, assigned to the Project on a full-time basis during execution of the Work who shall have the authority to act on behalf of Contractor, including executing the orders or directions of the Engineer without delay. This Superintendent and/or Project Manager shall have full authority to promptly supply products, tools, plant equipment, and labor as may be required to diligently prosecute the Work. All communications given to or received from the Superintendent and/or the Project Manager shall be binding on Contractor.

- C. If at any time during the Project the Superintendent or Project Manager leaves the Project site while Work is in progress, Engineer shall be notified and provided with the name of Contractor's representative having responsible charge.
- D. Contractor shall also designate the person responsible for Contractor's quality control while Work is in progress. Engineer shall be notified in writing prior to any change in quality control representative assignment.
- E. Prior to the Commencement of the Contract Time, Contractor shall furnish to the Owner and Engineer the names, resumes, 24 hour contact information and other relevant information associated with the Project Manager and the Superintendent that are to be assigned to this project. The Project Manager and Superintendent must be acceptable to the Owner and Engineer.

6.02 Labor; Working Hours

- A. Contractor shall provide competent, skilled, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site. Contractor shall, upon demand from the Engineer, immediately remove any manager, superintendent, foreman or workman whom the Engineer or Owner may consider incompetent or undesirable.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.
- C. Regular working hours may be Monday through Friday, excluding holidays, occurring between the hours of 7:00 AM and 7:00 PM, unless restricted otherwise. Contractor shall establish regular scheduled work times, e.g., four 10-hour days, five 8-hour days, or five 10-hour days within the hours and days allowed above. Approval for specific work outside regular scheduled work times shall be requested no less than 48 hours prior to the requested work period. Contractor shall request approval of changes in regular scheduled work times no less than one week prior to the desired change. Occasional unscheduled overtime on weekdays may be permitted provided reasonable notice is given to Engineer. Night work will not be established as a regular procedure, excluding emergencies, except with written permission. Such permission, if granted, shall be upon such terms and conditions deemed appropriate in the Engineer's sole discretion.
- D. Contractor shall pay all extra costs incurred by the Owner associated with work, outside of normal working hours, including additional support services, inspection services, testing services, utilities or other applicable costs. The cost associated with the Owner's inspection overtime will be the amounts as provided in the Supplementary Conditions per hour per individual, depending upon individuals assigned to the Project, the type of work being inspected, and the date of the invoice; i.e., allowing for salary escalation. Contractor will not be responsible for extra costs associated with inspection overtime for work in excess of 40 hours per week when such overtime work is explicitly required by the Contract Documents.
- E. Except in the case of emergencies or other unusual circumstances, no work shall be permitted on the project on Sunday.

- F. The Engineer will determine to what extent extraordinary onsite personnel work is required during Contractor's overtime work or working hours outside regular scheduled work hours.
- G. During unfavorable weather, wet ground, or other unsuitable construction conditions, the Contractor shall confine his operations to work which will not be affected adversely thereby. No portion of the work shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by the Contractor to perform the work in a proper and satisfactory manner.

6.03 Services, Materials, and Equipment

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, quality control, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified ~~or, and if not specified,~~ shall be of good quality, and new and unused, except as otherwise provided in the Contract Documents and shall be installed in an undamaged condition. All products provided on this Project shall be products currently manufactured by the manufacturer, i.e., products shall not be discontinued or out-of-date products nor shall they be of the last production run of the product. Contractor shall incorporate the previous sentence in any contract or agreement between Contractor and subcontractor or supplier supplying products provided on this Project. All special warranties and guarantees required by the ~~Specifications~~Contract Documents shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.
- D. Without limiting the responsibility or liability of the Contractor pursuant to this agreement, all warranties given by manufacturers on materials or equipment incorporated in the work are hereby assigned by the Contractor to the Owner. Such assignment shall be effective upon completion of Contractor's warranty period. If requested, the Contractor shall execute formal assignments of said manufacturer's warranties to the Owner. All such warranties shall be directly enforceable by the Owner. Such assignment shall in no way affect the Contractor's responsibilities and duties during the warranty period.
- E. Wherever a stock size of manufactured item or piece of equipment is specified by its nominal size, it shall be the responsibility of the Contractor to determine the actual space requirements for setting and for entrance to the setting space and to make all necessary allowances and adjustments therefor in his work without additional cost to the Owner.
- F. Equipment and Construction Plant. All equipment and construction plant shall be suitable to produce the quality of work and materials required for the satisfactory completion of the work within the Contract Time and shall be satisfactory to the Engineer. The Contractor shall provide adequate and suitable equipment and construction plant to meet the requirements of the work as specified in these Contract Documents. The Contractor shall remove unsuitable equipment from the site of the work when ordered to do so by the Engineer. The Contractor shall obtain

written permission from the Owner prior to constructing temporary buildings or other structures on land owned or leased by the Owner. If permission is granted, said buildings or other structures shall comply with all applicable regulations regarding their construction and maintenance and shall be satisfactory to the Owner.

6.04 Progress Schedule

- A. Contractor shall provide all resources, labor, materials, equipment, services, etc. necessary to adhere to the Progress Schedule established in accordance with Paragraph 2.07 and the General Requirements as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in and the General Requirements) an updated the Progress Schedule that will not result in changing the Contract Times and an updated Schedule of Submittals with each partial payment request, but no less than monthly. Contractor's failure to provide acceptable updated Progress Schedule and Schedule of Submittals will delay processing of the pay request until receipt of the acceptable updated Progress Schedule and/or an updated Schedule of Submittals. Such ~~adjustments will~~ updates and adjustments shall comply with any provisions of the General Requirements applicable thereto.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.
 3. Number of anticipated days associated with weather conditions, as defined in the General Requirements, shall be included on the critical path of Project Schedule.
- B. The Contractor shall implement the detailed schedule of activities to the fullest extent possible between Project Coordination Meetings.
- C. The Contractor shall prepare its daily report by 10:00 a.m. of the day following the report date. This daily report will contain, as a minimum, the weather conditions; number of workers by craft, including supervision and management personnel on site; active and inactive equipment on site; work accomplished by schedule activity item; problems; and visitors to the jobsite.
- D. If a current activity or series of activities on the overall project schedule is behind schedule and if the late status is not due to an excusable delay for which a time extension would be forthcoming, the Contractor shall attempt to reschedule the activity to be consistent with the overall Project schedule so as not to delay any of the Contract milestones. The Contractor agrees that:
1. The Contractor shall attempt to expedite the activity completion so as to have it agree with the overall progress schedule. Such measures as the Contractor may choose shall be made explicit during the Project Coordination Meeting.
 2. If, within two weeks of identification of such behind-schedule activity, the Contractor is not successful in restoring the activity to an on schedule status, the Contractor shall:
 - a. Carry out the activity with the scheduled crew on an overtime basis until the activity is complete or back on schedule.
 - b. Increase the crew size or add shifts so the activity can be completed as scheduled.

c. Commit to overtime or increased crew sizes for subsequent activities, or some combination of the above as deemed suitable by the Engineer.

3. These actions shall be taken at no increase in the Contract amount.

E. The Contractor shall maintain a current copy of all construction schedules on prominent display in the Contractor's field office at the Project site.

F. The Contractor shall cooperate with the Owner and Engineer in all aspects of the Project scheduling system. Failure to implement the Project scheduling system or to provide specified schedules, diagrams and reports, or to implement actions to re-establish progress consistent with the overall progress schedule may be causes for withholding of payment.

G. If the Progress Schedule reflects a completion date prior to the completion date established by the Agreement, this shall afford no basis to claim for delay should Contractor not complete the Work prior to the projected completion date. Instead, all "float" between the completion date in Contractor's schedule and the completion date established in the Agreement shall belong to and is available to the Contractor and the Owner.

6.05 *Substitutes and "Or-Equals"*

~~A. See General Requirements. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.~~

~~1. "Or-Equal" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:~~

~~a. in the exercise of reasonable judgment Engineer determines that:~~

~~1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;~~

~~2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and~~

~~3) it has a proven record of performance and availability of responsive service.~~

~~b. Contractor certifies that, if approved and incorporated into the Work:~~

~~1) there will be no increase in cost to the Owner or increase in Contract Times; and~~

~~2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.~~

~~2. Substitute Items:~~

~~a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.~~

~~b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.~~

~~c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.~~

~~d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:~~

~~1) shall certify that the proposed substitute item will:~~

~~a) perform adequately the functions and achieve the results called for by the general design;~~

~~b) be similar in substance to that specified, and~~

~~c) be suited to the same use as that specified;~~

~~2) will state:~~

~~a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,~~

~~b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and~~

~~c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;~~

~~3) will identify:~~

~~a) all variations of the proposed substitute item from that specified, and~~

~~b) available engineering, sales, maintenance, repair, and replacement services; and~~

~~4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.~~

- ~~B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.~~
- ~~C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.~~
- ~~D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.~~
- ~~E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.~~
- ~~F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or equal" at Contractor's expense.~~

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Acceptance of any Subcontractor, other person or organization by Owner shall not constitute a waiver of any right of Owner to reject defective Work. Contractor shall not be required to employ any Subcontractor, ~~Supplier,~~ or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, ~~and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued.~~ No acceptance by Owner of any such Subcontractor, Supplier, or

other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade. Such arrangement shall not operate to make the Engineer or the Owner an arbitrator to establish subcontract limits between Contractor and Subcontractor.
- G. All Work performed for Contractor by a Subcontractor or Supplier ~~will~~ shall be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. ~~Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.~~
- H. Owner or Engineer may furnish to any Subcontractor, Supplier or other person or organization, to the extent practicable, information about amounts paid on their behalf to Contractor in accordance with Contractor's Applications for Payment.
- I. Specialty Subcontractors: Contractor shall utilize the services of Specialty Subcontractors on those parts of the Work which is declared as specialty work in Specifications and which, under normal contracting practices, is best performed by Specialty Subcontractors, as required by the Engineer in Engineer's sole discretion, at no additional cost to the Owner. If Contractor desires

to self-perform specialty work, Contractor shall submit a request to the Owner, accompanied by evidence that Contractor's own organization has successfully performed the type of work in question, is presently competent to perform the type of work, and the performance of the work by Specialty Subcontractors will result in materially increased costs or inordinate delays.

J. The Contractor shall perform a minimum of 20 percent of the onsite labor with its own employees.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction, ~~permits and licenses~~ temporary permits and licenses, necessary and incidental to the due and lawful prosecution of the work, including all permits on any part of the Work as required by law in connection with the Work. Owner ~~shall~~ will assist Contractor, when required by the permitting agency necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times, or both. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.
- D. It is understood and agreed that the Contractor shall be familiar with and shall observe and comply with, all Federal, State, County, and local laws, codes, ordinances, regulations, orders, and decrees, including air and water pollution and noise abatement regulations, existing, or enacted subsequent to the execution of the Contract, that in any manner affect those engaged or employed in the work, or the materials or equipment used in the work, or which in any way affect the conduct of the work. The Contractor shall strictly observe all applicable laws and regulations as to public safety, health and sanitation. No pleas of misunderstanding or ignorance on the part of the Contractor will in any way serve to modify or mitigate the provisions of these Contract Documents. The Contractor and his Surety shall indemnify and save harmless the Owner and the Engineer and all their officers, agents, and servants against any claim or liability arising from, or based on the violation of, any such law, code, ordinance, regulation, order or decree, whether by himself, his agents or his employees.
- F. Where professional engineering and/or architectural services are required in connection with any of the components required by the Contract, all Bidders and component suppliers must make certain that there is full compliance with all applicable laws of the state in which the Project is located and any other state governing professional engineering and/or architecture. The Owner and Engineer do not warrant that any entity listed as an acceptable manufacturer is or will be in compliance with such laws.
- G. Any fines levied against the Owner for failure of Contractor to properly maintain required NPDES erosion and sediment control measures or any other related requirements will be deducted as set-offs from payments due Contractor.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

- A. Contractor shall maintain in a safe place at the Site [Record Documents as specified in the General Requirements](#) ~~one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference.~~ Upon completion of the Work, these record documents, Samples, and Shop Drawings ~~will~~ shall be delivered to Engineer for Owner.

6.13 Safety and Protection

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all ~~necessary~~ precautions for the safety of, and shall provide the ~~necessary~~ protection to prevent pollution of or damage, injury or loss to:
1. all persons on the Site or who may be affected by the Work;
 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. The property, improvements or facilities at the site shall be replaced or restored to a condition as good as when Contractor entered upon the Site. In case of failure on the part of Contractor to restore such property, or make good such damages or injury, the Owner may, after 48 hours

written notice, or sooner in the case of an emergency, proceed to repair, rebuild, or otherwise restore such property, improvements or facilities as may be deemed necessary. The cost thereof will be deducted from any monies due or which may become due Contractor under this Contract.

H. Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be tied back, where appropriate, to minimize damage. Trees 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.

I. The Contractor shall give due notice to any controlling person, department, or public service company, prior to adjusting items to grade and shall be held strictly liable to the Owner if any such items are disturbed, damaged or covered up during the course of the work.

J. Fire hydrants on or adjacent to the work shall be kept accessible to the fire-fighting apparatus at all times, and no material or obstruction shall be placed within 10 feet of any hydrant. Adjacent premises must be given access, as far as practicable, and obstruction of sewer inlets, gutters and ditches will not be permitted.

K. Public Safety and Convenience

1. The Contractor shall conduct his operations in a manner that will offer the least possible obstruction and inconvenience to the public and he shall not have under construction an amount of work greater than he can prosecute properly with due regard to the rights of the public.

2. Construction operations shall be conducted in a manner that will cause as little inconvenience as possible to abutting property owners. Convenient access to driveways, houses, buildings or other facilities in the vicinity of the work shall be maintained and temporary access facilities for public roadways shall be provided and maintained in satisfactory condition.

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

B. The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards, including sufficient lights and danger signals on or near the work; it shall erect suitable railings, barricades, covers, or other protective devices about unfinished work, open trenches, holes, embankments or other hazards and obstructions; where hazards to workmen or the public exist. The Contractor shall provide, at all times, all necessary watchmen on the project, for the safety of employees, delivery personnel, and the

general public, and to diligently guard and protect all work and materials, including Owner-furnished equipment. Construction equipment shall be suitably night-marked and lighted as necessary for safety considerations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings, ~~and~~ Samples and Other Submittals*

- A. Contractor shall submit ~~Shop Drawings and Samples~~Submittals to Engineer for review and approval in accordance with the accepted or adjusted Schedule of Submittals (as required by Paragraph 2.07). Each submittal ~~will~~shall be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings ~~will~~shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

- B. Where ~~a Shop Drawing or Sample~~any Submittal is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each [Shop Drawing and Sample](#) submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will [return as incomplete or will](#) provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval [or disapproval](#) will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval [or disapproval](#) will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written [notationField Order](#) thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.
4. Review by the Owner or Engineer of any plan or method of work proposed by the Contractor shall not relieve the Contractor of any responsibility therefor, and such review shall not be considered as an assumption of any risk or liability by the Owner or Engineer, or any officer, agent, or employee thereof. The Contractor shall have no claim on account of the failure or inefficiency of any plan or method so reviewed.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

F. Excessive Submittal Resubmission: Engineer will record time required by Engineer for excessive Submittal review occasioned by Contractor's resubmission, in excess of two resubmissions of any required Submittal, caused by unverified, unchecked or unreviewed, incomplete, inaccurate or erroneous, or nonconforming Submittals. Upon receipt of Engineer's accounting of time and costs, Contractor will reimburse Owner for the charges of Engineer's review for excessive resubmissions through set-offs from the recommended Owner payments to Contractor as established in Paragraph 14.02.D. of these General Conditions.

G. In the event that Contractor provided a submittal for a previously approved item, whether such is as a substitution or in addition to the previously approved item, Contractor shall reimburse Owner for Engineer's charges for such time as may be required to perform all reviews of the substitute item, unless the change is specifically requested by the Owner.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a ~~Shop Drawing or Sample s~~Submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification and Liability*

- A. It is understood and agreed that the Contractor shall be deemed and considered an independent contractor in respect to the work covered by these Contract Documents, and shall assume all risks and responsibility for casualties of every description in connection with the work, except that he shall not be held liable or responsible for delays or damage to work caused by acts of God, acts of public enemy, quarantine restrictions, general strikes throughout the trade, or freight embargoes not caused or participated in by the Contractor. The Contractor shall have charge and control of the entire work until completion and final acceptance of the work by the Owner. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor ~~under Paragraph 6.20.A~~ shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
1. the negligent preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. negligently giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

D. Contractor, Subcontractors, Suppliers and others on the Project, or their sureties, shall maintain no direct action against the Engineer, their officers, employees, affiliated corporations, consultants, and subcontractors, for any claim arising out of, in connection with, or resulting from the engineering services performed. Only the Owner will be the beneficiary of any undertaking by the Engineer.

E. Defense of Suits: In case any action in court is brought against the Owner or the Engineer, or any officer, agent or employee of any of them, for the failure, omission, or neglect of the Contractor to perform any of the covenants, acts, matters, or things by this contract undertaken; or for injury or damage caused by the alleged negligence of the Contractor or his subcontractors or his or their agents, or in connection with any claim based on lawful demands of subcontractors, workmen, material-men, or suppliers, the Contractor shall indemnify, defend and save harmless the Owner and the Engineer and their officers, agents and employees, from all losses, damages, costs, expenses (including attorneys' fees), judgments, or decrees arising out of such action.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

6.22 Project Coordination Meetings

- A. The Contractor shall participate in Project Coordination Meetings to be held on the site monthly, or more often if conditions warrant, to establish the current state of completion and revise the schedule as necessary. The Project Coordination Meeting will be conducted by the Owner and/or the Engineer.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
1. written notice thereof will be given to Contractor prior to starting any such other work; and
 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times or both that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 Coordination

- A. If Owner ~~intends to contract~~s with others for the performance of other work on the [Project at the Site](#), the following will be set forth in Supplementary Conditions:
1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination with other contractors.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

7.04 Claims Between Contractors

- A. Should Contractor cause damage to the work or property of any separate contractor at the site, or should any claim arising out of Contractor's performance of the work at the site be made by any separate contractor against Contractor, Owner, Engineer, or any other person, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by mediation, arbitration, or at law.
- B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold Owner, Engineer, and the officers, directors, employees, agents, and other consultants of each and any of them harmless from and against all claims, costs, losses and damages, (including, but not limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising directly, indirectly or consequentially out of or resulting from any action, legal or equitable, brought by any separate contractor against Owner, Engineer, or the officers, directors, employees, agents, and other consultants of each and any of them to the extent based on a claim arising out of Contractor's performance of the Work. Should a separate contractor cause damage to the Work or property of Contractor or should the performance of work by any separate contractor at the site give rise to any other claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or the officers, directors, employees, agents, and other consultants of each and any of them or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any mediator or arbitrator which seeks to impose liability on or to recover damages from Owner, Engineer, or the officers, directors, employees, agents, or other consultants of each and any of them on account of any such damage or claim.
- C. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable hereto, Contractor may make a claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, and/or Engineer and the officers, directors, employees, agents, or other consultants of each and any of them for any delay, disruption, interference or hindrance caused by any separate contractor. This Paragraph does not prevent

recovery from Owner, Engineer, and/or Designer for activities that are their respective responsibilities.

ARTICLE 8 – OWNER’S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer ~~to whom Contractor makes no reasonable objection,~~ whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner’s duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner’s shall not have any responsibilities, ~~if any,~~ with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner’s Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with

Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work, but will not be on-site at all hours the Work is in progress. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will have authority to determine the actual quantities and classifications of Unit Price Work performed by Contractor. If Engineer exercises such authority, Engineer will review with

Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and initial judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of,

and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents, except that Owner shall determine whether bonds, certificates of insurance and release of liens comply with the Contract Documents.

- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

1. Owner may, in anticipation of possibly ordering an addition, deletion or revision to the Work, request Contractor to prepare a proposal of cost and times to perform Owner's contemplated changes in the Work. Contractor's written proposal shall be transmitted to the Engineer promptly, but not later than fourteen days after Contractor's receipt of Owner's written request and shall remain a firm offer for a period not less than sixty days after receipt by Engineer.

2. Contractor is not authorized to proceed on an Owner contemplated change in the Work prior to Contractor's receipt of a Change Order (or Work Change Directive) incorporating such change into the Work.

3. Owner's request for proposal or Contractor's failure to submit such proposal within the required time period will not justify a claim for an adjustment in Contract Price or Contract Time (or Milestones).

4. The Owner shall not be liable to the Contractor for any costs associated with the preparation of proposal associated with the Owner's contemplated changes in the Work.

- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

B. In signing a Change Order, the Owner and Contractor acknowledge and agree that:

1. The stipulated compensation (Contract Price or Contract Time, or both) set forth in the Change Order includes payment for:
 - a. the Cost of the Work covered by the Change Order,
 - b. Contractor's fee for overhead and profit,
 - c. interruption of Progress Schedules,
 - d. delay and impact, including cumulative impact, on other work under the Contract Documents, and
 - e. extended home office and jobsite overhead;
2. the Change Order constitutes full mutual accord and satisfaction for the change to the Work;
3. No reservation of rights to pursue subsequent claims on the Change Order will be made by either party; and

4. No subsequent claim or amendment of the Contract Documents will arise out of or as a result of the Change Order.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims and Disputes*

- A. *Engineer's Decision Required:* All Claims and disputes, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than ~~30~~ 10 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with written supporting data shall be delivered to the Engineer and the other party to the Contract within ~~60-20~~ days (and monthly thereafter for continuing events) after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor

invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. 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 not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
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. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. 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, workers' compensation, health and retirement benefits, ~~bonuses~~, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' 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 returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

- a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
- b. 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 workers, 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.
- c. 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 advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the 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.

1. Full rental cost for rented, leased, and/or owned equipment shall not exceed the rates listed in the Rental Rate Blue Book published by Equipment Watch, a unit of Penton Media, Inc., as adjusted to the regional area of the Project. The most recent published edition in effect at the commencement of the actual equipment use shall be used.

2. Rates shall apply to equipment in good working condition. Equipment not in good condition, or larger than required, may be rejected by Engineer or accepted at reduced rates.

3. Equipment in Use: Actual equipment use time documented by the Engineer shall be the basis that the equipment was on and utilized at the Project site. In addition to the leasing rate above, equipment operational costs shall be paid at the estimated operating cost, payment category (and the table below), and associated rate set forth in the Blue Book if not already included in the lease rate.

The hours of operation shall be based upon actual equipment usage to the nearest full hour, as recorded by the Engineer.

<u>Actual Usage</u>	<u>Blue Book Payment Category</u>
<u>Less than 8 hours</u>	<u>Hourly Rate</u>
<u>8 or more hours but less than 7 days</u>	<u>Daily Rate</u>
<u>7 or more days but less than 30 days</u>	<u>Weekly Rate</u>
<u>30 days or more</u>	<u>Monthly Rate</u>

4. Equipment when idle (Standby): Idle or standby equipment is equipment on-site or in transit to and from the Work site and necessary to perform the Work under the

modification but not in actual use. Idle equipment time, as documented by the Engineer, shall be paid at the leasing rate determined in 11.01.A.5.c., excluding operational costs.

5. Where a breakdown occurs on any piece of equipment, payment shall cease for that equipment and any other equipment idled by the breakdown. If any part of the Work is shutdown by the Owner, standby time will be paid during non-operating hours if diversion of equipment to other Work is not practicable. Engineer reserves the right to cease standby time payment when an extended shutdown is anticipated.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than 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, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to any of the Work that has been completed and accepted by the Owner, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D.), provided such losses and damages 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 to the Work that has been accepted by Owner requires reconstruction and Contractor is placed in charge thereof, Contractor shall be paid for services, a fee proportionate to that stated in Paragraph 12.01.C.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as ~~telegrams~~, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 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.
 4. 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.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- ~~D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - ~~1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and~~
 - ~~2. there is no corresponding adjustment with respect to any other item of Work; and~~
 - ~~3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.~~~~

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a ~~mutually agreed~~ lump sum value fixed by the Owner or by unit price values fixed by the Owner (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and ~~agreement to a lump sum is not reached~~ where the method under Paragraph 12.01.B.2. is not selected by the Owner, on the basis of the Cost of the Work (determined

as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent based on subcontractor's actual Cost of the Work;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor; except the maximum total allowable cost to Owner shall be the Cost of the Work plus a maximum collective aggregate fee for Contractor and all tiered Subcontractors of 26.8 percent.
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 Delays

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times ~~will~~may be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, quarantine restrictions, strikes, freight embargoes, acts of war (declared or not declared), or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor ~~shall~~may be entitled to an equitable adjustment in Contract Times, but not Contract Price, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.
- F. If the Progress Schedule reflects a completion date or milestone date prior to the completion date or milestone date established by the Contract Documents, this shall afford no basis to claim for delay should Contractor not complete the Work prior to the projected completion date. Should a change order be executed with a revised completion date or milestone date, the Progress Schedule shall be revised to reflect the new completion date or milestone date.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

- A. Contractor is responsible for the initial and subsequent inspections of Contractor's Work to ensure that the Work conforms to the requirements of the Contract Documents. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests. Contractor shall establish an inspection program and a testing plan acceptable to the Engineer and shall maintain complete inspection and testing records available to Engineer.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all non-contractor inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

G. Tests required by Contract Documents to be performed by Contractor and that require test certificates to be submitted to Owner or Engineer for acceptance shall be made by an independent testing laboratory or agency licensed or certified in accordance with Laws and Regulations and applicable state and local statutes. In the event state license or certification is not required testing laboratories or agencies shall meet the following applicable requirements:

1. "Recommended Requirements for Independent Laboratory Qualification", published by the American Council of Independent Laboratories.
2. Basic requirements of ASTM E329, "Standard of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction" as applicable.
3. Calibrate testing equipment at reasonable intervals by devices of accuracy traceable to either the National Bureau of Standards or accepted values of natural physical constants.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

B. If Owner stops Work under Paragraph 13.05.A. Contractor shall not be entitled to an extension of Contract Time or increase in Contract Price.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

C. Contractor shall promptly segregate and remove rejected products from the Site.

D. If rejected products or Work is not removed within 48 hours, as provided in Paragraph 13.05 above, the Owner will have the right and authority to stop the Work immediately and will have the right to arrange for the removal of said rejected products or Work at the cost and expense of the Contractor.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, and all to the satisfaction of the Owner:
1. repair such defective land or areas; or
 2. correct such defective Work; or
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will/shall be paid by Contractor.

- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.
- F. Repetitive malfunction of an equipment or product item shall be cause for replacement and an extension of the correction period to a date one year following acceptable replacement. A repetitive malfunction shall be defined as the third failure of an equipment or product item following original acceptance.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount ~~will~~shall be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time, as defined by the Engineer, after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees,

Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A and as modified will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review five copies of an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. Retainage:
 - a. _____ The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

b. No form of collateral in lieu of cash will be acceptable as retainage.

c. Amounts retained by the Contractor from payments due to suppliers and subcontractors (expressed as a percentage) shall not exceed that being retained by the Owner.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

- c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. ~~Ten~~ Thirty days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for

such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement; if any.
4. Items entitling Owner to retain set-offs from the amount recommended, include but are not limited to:
 - a. Owner compensation to Engineer at an estimated average rate as specified in the Supplementary Conditions per each extra personnel hour for labor plus expenses because of the following Contractor-caused events:
 - (1) Witnessing retesting of corrected or replaced defective Work;
 - (2) Return visits to manufacturing facilities to witness factory testing or retesting;
 - (3) Submittal reviews in excess of three reviews by Engineer for substantially the same Submittal;
 - (4) Evaluation of proposed substitutes and in making changes to Contract Documents occasioned thereby;
 - (5) Hours worked by Contractor, in excess of normal work hours as defined by Article 6.02 of the General Conditions, necessitating Engineer to work overtime;
 - (6) Return visits to the Project by Engineer for Commissioning Activities not performed on the initial visit;
 - b. Fines levied against the Owner for Contractor's performance of NPDES Erosion and Sedimentation Control Measures or other permit violations.
 - c. The repair, rebuilding or restoration of property improvements or facilities by the Owner as outlined in Paragraph 6.13.
 - d. Liability for liquidated damages incurred by Contractor as set forth in the Agreement.

14.03 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment, retainage notwithstanding, free and clear of all Liens.

B. No materials or supplies for the Work shall be purchased by Contractor or subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. Contractor warrants that Contractor has good title to all materials and supplies used by Contractor in the Work, free from all liens, claims or encumbrances.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion. Specific items of Work that must be completed prior to the Engineer's issuance of a certificate of Substantial Completion include, but are not limited to, the following:
1. Correction of all deficient Work items listed by all state, local, and other regulatory agencies or departments.
 2. All submittals must be received and approved by the Engineer, including but not necessarily limited to, the following:
 - a. Record documents.
 - b. Factory test reports, where required.
 - c. Equipment and structure test reports.
 - d. Manufacturer's Certificate of Proper Installation.
 - e. Operating and maintenance information, instructions, manuals, documents, drawings, diagrams, and records.
 - f. Spare parts lists.
 3. All additional warranty or insurance coverage requirements have been provided.
 4. All manufacturer/vendor-provided operator training is complete and documented.
 5. Other items of Work specified elsewhere as being prerequisite for Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of

Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may ~~request direct~~ Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to ~~be ready for~~ sufficiently progressed towards its intended use ~~and substantially complete~~. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work described in Paragraph 14.05.A.1 ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 Final Inspection

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. Application for Payment:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments. Under no circumstances will Contractor's application for final payment be accepted by the Engineer until all Work required by the Contract Documents has been completed.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment, if requested by the Engineer;
 - c. a list of all Claims against Owner that Contractor believes are unsettled;
 - d. an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work have been paid or otherwise satisfied;
 - e. the final Change Order signed by the Contractor to close the Contract; and
 - f. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work, if requested by the Engineer.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying all documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, ~~within ten days after receipt of the final Application for Payment,~~ indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Thereupon Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment. If the Application for Payment and accompanying documentation are appropriate as to form and substance, Owner will in accordance with the applicable State or local General Law, pay Contractor the amount recommended by Engineer.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner ~~other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.~~

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 Owner May Suspend Work

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor ~~shall~~ may be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; ~~or~~
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents;
 5. If Contractor abandons the Work, or sublets this Contract or any part thereof, without the previous written consent of Owner, or if the Contract or any claim thereunder shall be assigned by Contractor otherwise than as herein specified;
 6. Contractor is adjudged bankrupt or insolvent;
 7. Contractor makes a general assignment for the benefit of creditors;
 8. A trustee or receiver is appointed for Contractor or for any of Contractor's property;
 9. Contractor files a petition to take advantage of any debtor's relief act, or to reorganize under the bankruptcy or applicable laws;
 10. Contractor repeatedly fails to supply sufficient skilled workmen, materials or equipment;
 11. Contractor fails to make satisfactory progress toward timely completion of the work; or
 12. Contractor repeatedly fails to make prompt payments to subcontractors or material suppliers for labor, materials or equipment.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor, unless Contractor otherwise cures the deficiency in accordance with Paragraph 15.02.D.:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

~~F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.~~

15.03 Owner May Terminate For Convenience

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate or discontinue, in whole or in part, the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, ~~including fair and reasonable sums for overhead and profit on such Work;~~
 2. direct expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, ~~plus fair and reasonable sums for overhead and profit on such expenses;~~

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; ~~and~~
 4. reasonable expenses directly attributable to termination; ~~and~~.
 5. ten percent overhead and profit for those costs agreed to in Paragraphs 15.03.A.1 through 15.03.A.4 above.
- B. Contractor shall submit within 30 calendar days after receipt of notice of termination a written statement setting forth its proposal for an adjustment to the Contract Price to include only the incurred costs described in this clause. Owner shall review, analyze, and verify such proposal and negotiate an equitable amount and the Contract may be modified accordingly.
- C. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.
- C. Except as allowed in Paragraph A above, the Contractor shall not suspend the work and shall not remove any equipment, tools, supplies, materials, or other items without the written permission of the Owner.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 Methods and Procedures

- A. ~~Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other~~

~~party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.~~

~~B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.~~

~~C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:~~

~~1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or~~

~~2. agrees with the other party to submit the Claim to another dispute resolution process; or~~

~~3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.~~

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. 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

2. delivered at or sent by registered or certified mail, postage prepaid, or by facsimile transmission and followed by written confirmation, to the last business address known to the giver of the notice.

B. All notices required of Contractor shall be performed in writing to the appropriate entity.

C. Electronic mail and messages will not be recognized as a written notice.

D. If the Contractor does not notify the Owner in accordance with Paragraph 10.05 of the belief that a field order, work by other contractors or the Owner, or subsurface, latent, or unusual unknown conditions entitles the Contractor to a Change Order, no consideration for time or money will be given the Contractor.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

17.07 *Addresses*

- A. Both the address given in the Bid form upon which this Agreement is founded, and Contractor's office at or near the site of the Work are hereby designated as places to either of which notices, letters, and other communications to Contractor shall be certified, mailed, or delivered. The delivering at the above named place, or depositing in a postpaid wrapper directed to the first-named place, in any post office box regularly maintained by the post office department, of any notice, letter or other communication to Contractor shall be deemed sufficient service thereof upon date of such delivery or mailing. The first-named address may be changed at any time by an instrument in writing, executed by Contractor, and delivered to and acknowledged by the Owner and Engineer. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon Contractor personally.

17.08 *Forms and Record*

- A. The form of all Submittals, notices, change orders and other documents permitted or required to be used or transmitted under the Contract Documents shall be determined by the Engineer.
- B. Contractor shall maintain throughout the term of the Contract, complete and accurate records of all Contractor's costs which relate to the work performed, including the extra work, under the terms of the Contract. The Owner, or its authorized representative, shall have the right at any reasonable time to examine and audit the original records.
- C. Records to be maintained and retained by Contractor shall include, but not be limited to:

1. Payroll records accounting for total time distribution of Contractor's employees working full or part time on the work;
 2. Cancelled payroll checks or signed receipts for payroll payments in cash;
 3. Invoices for purchases, receiving and issuing documents, and all other unit inventory records for Contractor's stores, stock, or capital items;
 4. Paid invoices and cancelled checks for materials purchase, subcontractors, and any other third parties' charges;
 5. Original estimate and change order estimate files and detailed worksheets;
 6. All project-related correspondence; and
 7. Subcontractor and supplier change order files (including detailed documentation covering negotiated settlements).
- D. Owner shall also have the right to audit: any other supporting evidence necessary to substantiate charges related to this agreement (both direct and indirect costs, including overhead allocations as they may apply to costs associated with this agreement); and any records necessary to permit evaluation and verification of Contractor compliance with contract requirements and compliance with provisions for pricing change orders, payments, or claims submitted by Contractor or any payees thereof. Contractor shall also be required to include the right to audit provision in the contracts (including those of a lump-sum nature) of all subcontractors, insurance agents, or any other business entity providing goods and services.

17.09 Assignment

- A. Contractor shall not assign, sell, transfer or otherwise dispose of the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the Owner. In case Contractor assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to Contractor shall be subject to prior liens of all persons, firms and corporations for services rendered or materials supplied for the performance of the Work called for under this Contract.

17.10 Inspection by Public Agencies

- A. Authorized representatives of the federal, state, local and other governmental agencies having jurisdiction over the work or any part thereof shall have access to the work and any records relevant to the prosecution and progress of the work. The Contractor shall provide proper facilities for such access and inspection.

END OF SECTION

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition, with Barge Modifications 01/09/18). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

The provisions in this Section of the Specifications shall govern in the event of any conflict between this Section and the General Conditions.

SC-1.01.A.9. Add the following language to the end of Paragraph 1.01.A.9:

The Change Order form to be used on this Project is the EJCDC C-941, Change Order Form.

SC-4.02 *Subsurface and Physical Conditions*

SC-4.02 Add the following new paragraphs immediately after Paragraph 4.02.B:

- C. No reports of explorations and tests of subsurface conditions at or contiguous to the Site.
- D. No drawings of physical conditions relating to existing surface or subsurface structures at the Site have been used by the Engineer in preparing the Contract Documents.

SC-4.06 *Hazardous Environmental Conditions*

SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B. Not Used.

SC-5.03 *Certificates of Insurance*

SC-5.03, following Paragraph E, add the following,

- F. Copies of endorsements showing that each additional insured identified herein have been added to the policies as an additional insured shall be attached to each of the certificates.
- G. Each insurance certificate for all coverages other than Worker's Compensation Insurance must show that a waiver of rights of recovery against any of the insured or the additional insured is in effect.

- H. Certificate for Worker's Compensation and Employer's Liability coverage must indicate inclusion or exclusion for any proprietor, partner, executive officer or member.

SC-5.04 *Contractor's Insurance*

SC-5.04.B.1, There are no other additional insureds other than the Owner and Engineer.

SC-5.04.C, following Paragraph 5.04.B.6.b, Add,

- C. The limits of liability for the insurance required by paragraph 5.04.B.2 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
 - 1. Worker's compensation, disability benefits and other similar employee benefit acts, and damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees as provided in Paragraphs 5.04.A.1 and 5.04.A.2 of the General Conditions:
 - a. Workers Compensation: Statutory limits
 - b. Employer's Liability, Each Accident: \$1,000,000
 - c. Employer's Liability, Each Employee: \$1,000,000
 - d. Employer's Liability, Disease – Policy Limit: \$1,000,000
 - 2. Contractor's General Liability Insurance under paragraphs 5.04.A.3 through 5.04.A.5 of the General Conditions shall provide the following minimum limits and conditions:
 - a. Each Occurrence: \$1,000,000.
 - b. Damage to Rented Premises (each occurrence) \$100,000.
 - c. Medical Expenses (any one person) \$5,000.
 - d. Personal and Advertising Injury: \$1,000,000.
 - e. General Aggregate: \$2,000,000.
 - f. Products-Completed Operations Aggregate: \$2,000,000.
 - g. Explosion, collapse, and underground coverage shall be included with such indicated on the insurance certificate under General Liability.
 - h. The general aggregate policy limits must be designated to the Project.
 - i. Contractual Liability coverage, as required under Paragraph 5.04.B.3 must be indicated on the insurance certificate under General Liability.

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions, providing for Combined Single Limit (each accident) for all owned, hired, and non-owned vehicles: \$1,000,000.
4. Provide Excess Liability or Umbrella Liability insurance providing protection for at least the hazards insured under the primary liability policies with the following limits:
 - a. General Aggregate: \$5,000,000.
 - b. Each Occurrence: \$5,000,000.

SC-6.01 *Supervision and Superintendence*

SC-6.01. Paragraph B, second sentence,
Delete, “... on a full-time basis ...”

SC-6.01. Paragraph C,
Change, “...Project the Superintendent or Project Manager leaves the
...”
To
“...Project both the Superintendent and Project Manager leave the
...”

SC-6.02 *Labor; Working Hours*

SC-6.02 Add the following subparagraph 6.02.D.1:

1. The following rates will apply for the overtime work on behalf of the Owner: \$125.00/hour to \$225.00/hour, depending on actual Resident Project Representative assigned to the Project.

SC-6.13 *Safety and Protection*

SC-6.13 Delete the second sentence of Paragraph 6.13.C.

SC-14.02.D.4.e After paragraph 14.02.D. 4.d, add the following:

5. The following rates will for the additional services performed by the Engineer on behalf of the Owner:

<u>Labor Grade</u>	<u>Rate</u>
E2	\$100.00
E4	\$140.00
E6	\$180.00
E8	\$220.00

SC-17.05 After paragraph 17.05.A, add the following:

- B. The parties acknowledge that this Contract is executed in Williamson County, Tennessee and that the Contract is to be performed in Williamson County, Tennessee. Each party hereby consents to the Williamson County Court's sole jurisdiction over any dispute which arises as a result of the execution or performance of this Agreement, and each party hereby waives any and all objections to venue in the Williamson County Court.

END OF SECTION

Part 1 General

1.1 Section Includes

- A. Work by Contractor.
- B. Quantities.

1.2 Work by Contractor

- A. The work to be performed under this Contract shall consist of furnishing all labor, materials, tools, equipment and incidentals and performing all work required to construct complete in place and ready to operate the improvements shown in the Contract Documents. These improvements include, but are not limited to, the following:
 - 1. The Project consists of installing approximately 1,500 feet of 10" force main and 1,500 feet of 12" by open cut and approximately 50 feet of 10" force main and 50 feet of 12" force main by jack and bore under Critz Lane.
- B. All work described above shall be performed as shown on the Drawings and as specified.
- C. Project Location
 - 1. The equipment and materials to be furnished will be installed at the locations shown on the Drawings.

1.3 Quantities

- A. The Owner reserves the right to alter the quantities of work to be performed or to extend or shorten the improvements at any time when and as found necessary, and the Contractor shall perform the work as altered, increased or decreased. Payment for such increased or decreased quantity will be made in accordance with the Instructions to Bidders. No allowance will be made for any change in anticipated profits nor shall such changes be considered as waiving or invalidating any conditions or provisions of the Contract and Bond.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Scope

- A. The Bid lists each item of the Project for which payment will be made. No payment will be made for any items other than those listed in the Bid.
- B. Required items of work and incidentals necessary for the satisfactory completion of the work which are not specifically listed in the Bid, and which are not specified in this section to be measured or to be included in one of the items listed in the Bid, shall be considered as incidental to the work. All costs thereof, including Contractor's overhead costs and profit, shall be considered as included in the lump sum or unit prices bid for the various Bid items. The Contractor shall prepare the Bid accordingly.
- C. Work includes furnishing all plant, labor, equipment, tools and materials, which are not furnished by the Owner and performing all operations required to complete the work satisfactorily, in place, as specified and as indicated on the Drawings.

1.2 Descriptions

- A. Measurement of an item of work will be by the unit indicated in the Bid.
- B. Final payment quantities shall be determined from the record drawings. The record drawing lengths, dimensions, quantities, etc. shall be determined by a survey after the completion of all required work. Said survey shall conform to Section 01 78 39 of these Specifications. The precision of final payment quantities shall match the precision shown for that item in the Bid.
- C. Payment will include all necessary and incidental related work not specified to be included in any other item of work listed in the Bid.
- D. Unless otherwise stated in individual sections of the Specifications or in the Bid, no separate payment will be made for any item of work, materials, parts, equipment, supplies or related items required to perform and complete the work. The costs for all such items required shall be included in the price bid for item of which it is a part.
- E. Payment will be made by extending unit prices multiplied by quantities provided and then summing the extended prices to reflect actual work. Such price and payment shall constitute full compensation to the Contractor for furnishing all plant, labor, equipment, tools and materials not furnished by the Owner and for performing all operations required to provide to the Owner the entire Project, complete in place, as specified and as indicated on the Drawings.

1.3 Clearing and Grubbing

- A. No separate payment shall be made for clearing and grubbing.

Measurement and Payment

- B. The cost of moving and reestablishing landscape features, including labor and materials, shall be included in the unit price bid for the item to which it pertains.

1.4 Erosion and Sedimentation Control

A. General

1. No separate payment shall be made for temporary and/or permanent erosion and sedimentation controls, except as noted below. All other temporary and/or permanent erosion and sedimentation control costs shall be included in the unit price bid for the item to which it pertains.
2. No payment will be made for any portion of the Project for which temporary erosion and sedimentation controls are not properly maintained.

1.5 Earthwork

A. Earth Excavation

1. No separate payment will be made for earth excavation. The cost of such work and all costs incidental thereto shall be included in the price bid for the item to which the work pertains.
2. No separate payment will be made for providing sheeting, bracing and timbering.

1.6 Trench Excavation and Backfill

- A. No separate or additional payment shall be made for any special or unique method, means, techniques or equipment necessary for the Contractor's compliance with these Specifications, regulatory requirements, permits, laws or regulations which govern this Project.
- B. Trench Excavation: No separate payment shall be made for trench excavation. All costs shall be included in the unit price bid for the item to which it pertains.
- C. Sheeting, Bracing and Shoring: No separate payment will be made for providing sheeting, bracing and timbering.

1.7 Earthwork

A. Earth Excavation

1. No separate payment will be made for earth excavation. The cost of such work and all costs incidental thereto shall be included in the price bid for the item to which the work pertains.
2. No separate payment will be made for providing sheeting, bracing and timbering.

1.8 Site Mobilization

- A. Mobilization to the job site shall be paid as a lump sum item. Payment shall be a one-time cost to include all Contractor incurred mobilization cost associated with project. This pay item is specifically for all costs associated with mobilizing equipment, staff, and materials to the project area. It shall also be payment for any construction permits necessary to complete the work.
- B. Payment for Project Mobilization shall be limited to a maximum amount of five percent (5%) of the total Bid price.
- C. No separate payment shall be made for demobilization and shall be considered a necessary part of the work.

1.9 10-inch Diameter and 12-Diameter Force Main by Open Cut

- A. Measurement. Force main installation is to be completed by open cut excavation as shown or described in the Contract documents. The quantity of force main installation that will be paid for under this bid item will be the measured linear feet of force main actually installed. Fittings shall be included in the unit price for the force main.
- B. Payment. The unit price per linear foot paid for this bid item will be based on the actual footage installed and shall include all labor, materials, water, tools, equipment, supervision, other accessories, or incidentals necessary to complete the work as shown or described in the Contract Documents.

1.10 Jack and Bore with 18" Steel Casing and 10" DIP Carrier Pipe

- A. Measurement. The jack and bore with 18" steel casing and 10" DIP carrier pipe is to be completed by jack and bore as shown or described in the Contract documents. The quantity of force main installation that will be paid for under this bid item will be the measured linear feet of force main actually installed. The carrier pipe installed within the casing shall be included in the unit price.
- B. No additional payment shall be made for rock excavation through the casing. No additional payment will be made for additional length of casing or boring installed for contractor's convenience.
- C. Payment for pipe in casing shall be made only at the completion of all work specified for the pipe installation. Payment for pipe in the casing shall be made only at the one-unit price bid for the appropriate crossing.
- D. Payment. The unit price per linear foot paid for this bid item will be based on the actual footage installed and shall include all labor, materials, water, tools, equipment, supervision, other accessories, or incidentals necessary to complete the work as shown or described in the Contract Documents.

1.11 Jack and Bore with 20" Steel Casing and 12" DIP Carrier Pipe

- A. Measurement. The jack and bore with 20" steel casing and 12" DIP carrier pipe installation is to be completed by jack and bore as shown or described in the Contract documents. The quantity of force main installation that will be paid for under this bid item will be the measured linear feet of force main actually installed. The carrier pipe installed within the casing shall be included in the unit price.
- B. No additional payment shall be made for rock excavation through the casing. No additional payment will be made for additional length of casing or boring installed for contractor's convenience.
- C. Payment for pipe in casing shall be made only at the completion of all work specified for the pipe installation. Payment for pipe in the casing shall be made only at the one-unit price bid for the appropriate crossing.
- D. Payment. The unit price per linear foot paid for this bid item will be based on the actual footage installed and shall include all labor, materials, water, tools, equipment, supervision, other accessories, or incidentals necessary to complete the work as shown or described in the Contract Documents.

1.12 2-inch Air/Vacuum Valve

- A. Measurement. The quantity paid under this bid item will be for each completed installation of 2-inch air/vacuum valves, saddle, gate valve, corporation valve, and associated manhole as shown or described in the Contract documents.
- B. Payment. The unit price for this bid item shall be full compensation for all labor, materials, water, tools, equipment, supervision, other accessories, or incidentals necessary to complete the work as shown or described in the Contract Documents.

1.13 10" and 12" Plug Valve

- A. Measurement. The quantity paid under this bid item will be for each completed installation of plug valves and associated valve box as shown or described in the Contract documents.
- B. Payment. The unit price for this bid item shall be full compensation for all labor, materials, water, tools, equipment, supervision, other accessories, or incidentals necessary to complete the work as shown or described in the Contract Documents.

1.14 Cash Allowances

- A. General
 - 1. The Contractor shall include in the Bid Total all allowances stated in the Contract Documents. These allowances shall cover the net cost of the services provided by a firm approved by the Owner. The Contractor's handling costs, labor,

overhead, profit, and other expenses contemplated for the original allowance shall be included in the items to which they pertain and not in allowances.

2. No payment will be made for nonproductive time on the part of testing personnel due to the Contractor's failure to properly coordinate testing activities with the work schedule or the Contractor's problems with maintaining equipment in good working condition. The Contractor shall make all necessary excavations and shall supply any samples of materials necessary for conducting compaction, density tests, concrete tests, cured-in-place pipe samples and any other samples required for testing.
 3. No payment shall be provided for services that fail to verify required results.
- B. Should the net cost be more or less than the specified amount of the allowance, the Contract will be adjusted accordingly by change order. The amount of change order will not recognize any changes in handling costs at the site, labor, overhead, profit and other expenses caused by the adjustment to the allowance.
- C. Documentation
1. Submit copies of the invoices with each periodic payment request from the firm providing the services.
 2. Submit results of services provided which verify required results.
- D. Schedule of Cash Allowances
1. Soil, Concrete and Materials Testing: Allow the amount provided in the Bid for the services of a geotechnical engineering firm and testing laboratory to verify soils conditions including trench excavation and backfill, and similar issues and for the testing of concrete cylinders for poured in place concrete and testing physical properties of manhole lining materials.
 2. Rock Excavation:
 - a. Allow the amount provided in the Bid for Rock Excavation which shall be paid for as an extra in addition to payment for pipe provided for elsewhere in these Specifications.
 - b. The amount paid for the allowance shall be based on a trench width equal to the outside diameter of the pipe barrel plus 18-inches but not less than 36-inches and a depth of rock on the pipe centerline, from the top of the rock to the bottom of the rock or the specified bottom of the trench, whichever has the higher elevation.
 - c. The Engineer must be given reasonable notice to measure all rock.
 - d. No allowance shall be made for excavating to extra widths for

Measurement and Payment

construction of manholes or other appurtenances, for excavating to sloping sides, or for excavations made necessary by the physical limitations of the Contractor's equipment. Cost of such additional rock excavation shall be included in the unit price bid for the item to which it pertains.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Scope

- A. This section outlines the restrictions and requirements for substitutions, product and manufacturer options, and construction method options.

1.2 Definitions

- A. For the purposes of these Contract Documents, a “substitute item” shall be defined as one of the following:
 - 1. A product or manufacturer offered as a replacement to a specified product or manufacturer.
 - 2. A product or manufacturer offered in addition to a specified product or manufacturer.
- B. For the purposes of these Contract Documents, a “substitute construction method” shall be defined as one of the following:
 - 1. A mean, method, technique, sequence or procedure of construction offered as a replacement for a specified mean, method, technique, sequence or procedure of construction.
 - 2. A mean, method, technique, sequence or procedure of construction offered in addition to a specified mean, method, technique, sequence or procedure of construction.

1.3 General

- A. An item or construction method, which is offered where no specific product, manufacturer, mean, method, technique, sequence or procedure of construction is specified or shown on the Drawings, shall not be considered a substitute and shall be at the option of the Contractor, subject to the provisions in the Contract Documents for that item or construction method.
- B. For products specified only by a referenced standard, the Contractor may select any product by any manufacturer, which meets the requirements of the Specifications, unless indicated otherwise in the Contract Documents.
- C. If the manufacturer is named on the Drawings or in the Specifications as an acceptable manufacturer, products of that manufacturer meeting all requirements of the Specifications and Drawings are acceptable.
- D. Whenever the Engineer's design is based on a specific product of a particular manufacturer, that manufacturer will be shown on the Drawings and/or listed first in the list of approved manufacturers in the Specifications. Any Bidder intending to furnish products of other than the first listed manufacturer, or furnish substitute items, shall:

Substitution Procedures

1. Verify that the item being furnished will fit in the space allowed, perform the same functions and have the same capabilities as the item specified,
2. Include in its Bid the cost of all accessory items which may be required by the other listed substitute product,
3. Include the cost of any architectural, structural, mechanical, piping, electrical or other modifications required, and
4. Include the cost of required additional work by the Engineer, if any, to accommodate the item.

1.4 Approvals

- A. Approval, of a substitution as an acceptable manufacturer, of the Engineer is dependent on determination that the product offered is essentially equal in function, performance, quality of manufacture, ease of maintenance, reliability, service life and other criteria to that on which the design is based; and will require no major modifications to structures, electrical systems, control systems or piping systems.

1.5 Substitutions and Options

A. After Notice to Proceed

1. Substitute items will be considered only if the term "equal to" precedes the names of acceptable manufacturers in the Specification.
2. Where items are specified by referenced standard or specified as indicated in Article 1.3, Paragraph B above, such items shall be submitted to the Engineer for review.
3. The Contractor shall submit shop drawings on the substitute item for the Engineer's review in accordance with Section 01 33 00.

B. Prior to Opening of Bids

1. No consideration or approvals will be made for products specified by a referenced standard, or specified as indicated in Article 1.3, Paragraph B, above. Such consideration may occur only after the Notice to Proceed.
2. No consideration or approvals will be made for products being offered where the term "equal to" precedes the name of an approved product. Such substitution consideration may occur only after the Notice to Proceed.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Extensions of Contract Time

- A. If the basis exists for an extension of time in accordance with Article 6 of the General Conditions, an extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for that month.

1.2 Standard Baseline for Average Climate Range

- A. The Owner has reviewed weather data available from the National Oceanic and Atmospheric Administration (NOAA) and determined a Standard Baseline of average climatic range for the State of Tennessee.
- B. Standard Baseline is defined as the normal number of calendar days for each month during which construction activity exposed to weather conditions is expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.
- C. Standard Baseline is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12	11	8	7	7	6	7	5	4	5	6	11

1.3 Adverse Weather and Weather Delays

- A. Adverse Weather is defined as the occurrence of one or more of the following conditions within a twenty-four hour day that prevents construction activity exposed to weather conditions or access to the site:
 - 1. Precipitation (rain, snow, or ice) in excess of one-tenth inch liquid measure;
 - 2. Temperatures that do not rise above that required for the day's construction activity, if such temperature requirement is specified or accepted as standard industry practice; and/or,
 - 3. Sustained wind in excess of twenty-five m.p.h.
- B. Adverse Weather may include, if appropriate, "dry-out" or "mud" days:
 - 1. Resulting from precipitation days that occur beyond the standard baseline;
 - 2. Only if there is a hindrance to site access or sitework and Contractor has taken all reasonable accommodations to avoid such hindrance; and,
 - 3. At a rate no greater than one make-up day for each day or consecutive days of precipitation beyond the standard baseline that total one inch or more, liquid measure, unless specifically recommended otherwise by the Engineer. A Weather

Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the contractor's scheduled work day and critical path construction activities were included in the day's schedule, including a weekend day or holiday if Contractor has scheduled construction activity that day.

- C. Contractor shall take into account that certain construction activities are more affected by adverse weather and seasonal conditions than other activities, and that "dry-out" or "mud" days are not eligible to be counted as a Weather Delay Day until the standard baseline is exceeded. Hence, Contractor should allow for an appropriate number of additional days associated with the Standard Baseline days in which such applicable construction activities are expected to be prevented and suspended.

1.4 Documentation and Submittals

- A. Submit daily jobsite work logs showing which and to what extent critical path construction activities have been affected by weather on a monthly basis.
- B. Submit actual weather data to support claim for time extension obtained from nearest NOAA weather station or other independently verified source approved by Engineer at beginning of project.
- C. Use Standard Baseline data provided in this Section when documenting actual delays due to weather in excess of the average climatic range.
- D. Organize claim and documentation to facilitate evaluation on a basis of calendar month periods and submit in accordance with the procedures for Claims established in Article 10 of the General Conditions.
- E. If an extension of the Contract Time is appropriate, such extension shall be made in accordance with the provisions of Article 6 of the General Conditions, and the applicable General Requirements.

END OF SECTION

Part 1 General

1.1 Scope

- A. Preparing, furnishing, distributing, and periodic updating of the construction schedules as specified herein.
- B. The purpose of the schedule is to demonstrate that the Contractor can complete the overall Project within the Contract Time and meet all required interim milestones.

1.2 Submittals

- A. Overall Project Schedule (OPS)
 - 1. Submit the schedule within 10 days after date of the Notice to Proceed.
 - 2. The Engineer will review the schedule and return it within 10 days after receipt.
 - 3. If required, resubmit within 10 days after receipt of a returned copy.
- B. Near Term Schedule (NTS)
 - 1. Submit the first Near Term Schedule within 10 days of the Notice to Proceed.
 - 2. The Engineer will review the schedule and return it within 10 days after receipt.
- C. Submit an update of the OPS and NTS with each progress payment request.
- D. Submit the number of copies required by the Contractor, plus four copies to be retained by the Engineer.

1.3 Approval

- A. Approval of the Contractor's detailed construction program and revisions thereto shall in no way relieve the Contractor of any of Contractor's duties and obligations under the Contract. Approval is limited to the format of the schedule and does not in any way indicate approval of, or concurrence with, the Contractor's means, methods and ability to carry out the work.

1.4 Overall Project Schedule (OPS)

- A. The Contractor shall submit to the Owner for approval a detailed Overall Project Schedule of the Contractor's proposed operations for the duration of the Project. The OPS shall be in the form of a Gantt/bar chart.

B. Gantt/Bar Chart Schedule

1. Each activity with a duration of five or more days shall be identified by a separate bar. Activities with a duration of more than 20 days shall be subdivided into separate activities.
2. The schedule shall include activities for shop drawing preparation and review, fabrication, delivery, and installation of major or critical path materials and equipment items.
3. The schedule shall show the proposed start and completion date for each activity. A separate listing of activity start-and-stop dates and working day requirements shall be provided unless the information is shown in text form on the Gantt/bar chart.
4. The schedule shall identify the Notice to Proceed date, the Contract Completion date, major milestone dates, and a critical path.
5. The schedule shall be printed on a maximum 11 x 17-inch size paper. If the OPS needs to be shown on multiple sheets, a simplified, one page, summary bar chart showing the entire Project shall be provided.
6. The schedule shall have a horizontal time scale based on calendar days and shall identify the Monday of each week.
7. The schedule shall show the precedence relationship for each activity.

1.5 Near Term Schedule (NTS)

- A. The Contractor shall develop and refine a detailed Near Term Schedule showing the day to day activities with committed completion dates which must be performed during the upcoming 30-day period. The detailed schedule shall represent the Contractor's best approach to the Work which must be accomplished to maintain progress consistent with the Overall Project Schedule.
- B. The Near Term Schedule shall be in the form of Gantt/bar chart and shall include a written narrative description of all activities to be performed and describe corrective action to be taken for items that are behind schedule.

1.6 Updating

- A. Show all changes occurring since previous submission of the updated schedule.
- B. Indicate progress of each activity and show actual completion dates.
- C. The Contractor shall be prepared to provide a narrative report at the Project Progress Meetings. The report shall include the following:
 1. A description of the overall Project status and comparison to the OPS.

2. Identify activities which are behind schedule and describe corrective action to be taken.
3. A description of changes or revisions to the Project and their effect on the OPS.
4. A description of the Near Term Schedule of the activities to be completed during the next 30 days. The report shall include a description of all activities requiring participation by the Engineer and/or Owner.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Scope

- A. The work under this Section includes submittal to the Engineer of shop drawings, product data and samples required by the various Sections of these Specifications.
- B. Submittal Contents: The submittal contents required are specified in each Section.
- C. Definitions: Submittals are categorized as follows:
 - 1. Shop Drawings
 - a. Shop drawings shall include technical data, drawings, diagrams, procedure and methodology, performance curves, schedules, templates, patterns, test reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.
 - b. Provide newly-prepared information with graphic information at accurate scale (except as otherwise indicated) with name or preparer (firm name) indicated. The Contract Drawings shall not be reproduced by any method for use as or in lieu of detail shop drawings. Show dimensions and note dimensions that are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawings to be used in connection with the Work without appropriate final "Action" markings by the Engineer.
 - c. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail, Specification Section, schedule or room numbers shown on the Contract Drawings.
 - d. Minimum assembly drawings sheet size shall be 11 x 17-inches.
 - e. Minimum detail sheet size shall be 8-1/2 x 11-inches.
 - f. Minimum Scale:
 - i. Assembly Drawings Sheet, Scale: 1-inch = 30 feet.
 - ii. Detail Sheet, Scale: 1/4-inch = 1 foot.
 - 2. Product Data
 - a. Product data includes standard published information on materials, products and systems, not specially prepared for this Project, other than the designation of selections from among available choices printed therein.

- b. Collect required data into one submittal for each unit of work or system and mark each copy to show which choices and options are applicable to the Project. Include manufacturer's standard published recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked and special coordination requirements.
 3. Samples
 - a. Samples include both fabricated and un-fabricated physical examples of materials, products and units of work, both as complete units and as smaller portions of units of work, either for limited visual inspection or, where indicated, for more detailed testing and analysis.
 - b. Provide units identical with final condition of proposed materials or products for the work. Include "range" samples, not less than three units, where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where the Engineer's selection is required. Prepare samples to match the Engineer's sample where indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by the Engineer. Engineer will note "test" samples, except as otherwise indicated, for other requirements, which are the exclusive responsibility of the Contractor.
 4. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, security/protection/safety keys and similar information, devices and materials applicable to the work but not processed as shop drawings, product data or samples.

1.2 Specific Category Requirements

- A. General: Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal. Submittals shall contain:
 1. The date of submittal and the dates of any previous submittals.
 2. The Project title.
 3. Unless indicated otherwise by the Engineer's submittal management software, provide numerical submittal numbers, starting with 1.0, 2.0, etc. Revisions to be numbered 1.1, 1.2, etc.

4. The Names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
5. Identification of the product, with the Specification Section number, permanent equipment tag numbers and applicable Drawing No.
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features of the work or materials.
8. Applicable standards, such as ASTM.
9. Notification to the Engineer in writing, at time of submissions, of any deviations on the submittals from requirements of the Contract Documents.
10. Identification of revisions on resubmittals.
12. Contractor's stamp, initialed or signed or affirmatively indicated on submittal, certifying to review of submittal, verification of products, field measurements and field construction criteria and coordination of the information within the submittal with requirements of the work and of Contract Documents.
13. Submittals showing more than the particular item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.3 Routing of Submittals

- A. Submittals and routine correspondence shall be routed as follows:
 1. Supplier to Contractor (through representative if applicable).
 2. Contractor to Engineer.
 3. Engineer to Contractor and Owner.
 4. Contractor to Supplier.

Part 2 Products

2.1 Shop Drawings

- A. Unless otherwise specifically directed by the Engineer, make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its

Submittal Procedures

method of connection to the work.

- B. Submit all shop assembly drawings, as a digital image, pdf format, scanned at the original scale.
- C. Submit all shop drawings as a digital image, pdf format, scanned at the original scale.

2.2 Manufacturer's Literature

- A. Where content of submitted literature from manufacturers includes data not pertinent to this submittal, clearly indicate which portion of the contents is being submitted for the Engineer's review.

2.3 Samples

- A. Samples shall illustrate materials, equipment or workmanship and established standards by which completed work is judged.
- B. Unless otherwise specifically directed by the Engineer, all samples shall be of the precise article proposed to be furnished.
- C. Submit all samples in the quantity which is required to be returned plus one sample which will be retained by the Engineer.

2.4 Colors

- A. Unless the precise color and pattern is specifically described in the Contract Documents, wherever a choice of color or pattern is available in a specified product, submit accurate color charts and pattern charts to the Engineer for review and selection.
- B. Unless all available colors and patterns have identical costs and identical wearing capabilities, and are identically suited to the installation, completely describe the relative costs and capabilities of each.

Part 3 Execution

3.1 Contractor's Coordination of Submittals

- A. Prior to submittal for the Engineer's review, the Contractor shall use all means necessary to fully coordinate all material, including the following procedures:
 - 1. Determine and verify all field dimensions and conditions, catalog numbers and similar data.
 - 2. Coordinate as required with all trades and all public agencies involved.
 - 3. Submit a written statement of review and compliance with the requirements of all applicable technical Specifications as well as the requirements of this Section.

-
4. Clearly indicate in a letter or memorandum on the manufacturer's or fabricator's letterhead, all deviations from the Contract Documents.
- B. Each and every shop drawing and data sheet submittal shall bear the Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Engineer without the Contractor's stamp will be returned to the Contractor for conformance with this requirement.
 - C. The Owner may backcharge the Contractor for costs associated with having to review a particular shop drawing, product data or sample more than two times to receive a "No Exceptions Taken" mark.
 - D. Grouping of Submittals
 1. Unless otherwise specifically permitted by the Engineer, make all submittals in groups containing all associated items.
 2. No review will be given to partial submittals of shop drawings for items which interconnect and/or are interdependent. It is the Contractor's responsibility to assemble the shop drawings for all such interconnecting and/or interdependent items, check them and then make one submittal to the Engineer along with Contractor's comments as to compliance, non-compliance or features requiring special attention.
 - E. Schedule of Submittals
 1. Within 30 days of Contract award and prior to any shop drawing submittal, the Contractor shall submit a schedule showing the estimated date of submittal and the desired approval date for each shop drawing anticipated. A reasonable period shall be scheduled for review and comments. Time lost due to unacceptable submittals shall be the Contractor's responsibility and some time allowance for resubmittal shall be provided. The schedule shall provide for submittal of items which relate to one another to be submitted concurrently.

3.2 Timing of Submittals

- A. Make all submittals far enough in advance of scheduled dates for installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.
- B. In scheduling, allow sufficient time for the Engineer's review following the receipt of the submittal.

3.3 Reviewed Shop Drawings

- A. Engineer Review
 1. Allow a minimum of 30 days for the Engineer's initial processing of each submittal requiring review and response, except allow longer periods where

Submittal Procedures

processing must be delayed for coordination with subsequent submittals. The Engineer will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination. Allow a minimum of two weeks for reprocessing each submittal. Advise the Engineer on each submittal as to whether processing time is critical to progress of the work, and therefore the work would be expedited if processing time could be foreshortened.

2. Acceptable submittals without any comments will be marked "No Exceptions Taken".
 3. Submittals containing comments for clarification will be marked "Exceptions Noted".
 4. Submittals marked "Revise and Resubmit" must be revised to reflect required changes and the initial review procedure repeated.
 5. The "Rejected" notation is used to indicate products which are not acceptable. Upon return of a submittal so marked, the Contractor shall repeat the initial review procedure utilizing acceptable products.
- B. No work or products shall be installed without a drawing or submittal bearing the "No Exceptions Taken" notation. The Contractor shall maintain at the job site a complete set of shop drawings bearing the Engineer's stamp.
- C. Substitutions: In the event the Contractor obtains the Engineer's approval for the use of products other than those which are listed first in the Contract Documents, the Contractor shall, at the Contractor's own expense and using methods approved by the Engineer, make any changes to structures, piping and electrical work that may be necessary to accommodate these products.
- D. Use of the "No Exceptions Taken" notation on shop drawings or other submittals is general and shall not relieve the Contractor of the responsibility of furnishing products of the proper dimension, size, quality, quantity, materials and all performance characteristics, to efficiently perform the requirements and intent of the Contract Documents. The Engineer's review shall not relieve the Contractor of responsibility for errors of any kind on the shop drawings. Review is intended only to assure conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site. The Contractor is also responsible for information that pertains solely to the fabrication processes or to the technique of construction and for the coordination of the work of all trades.

3.4 Resubmission Requirements

- A. Shop Drawings
1. Revise initial Drawings as required and resubmit as specified for initial submittal, with the resubmittal number shown.

2. Indicate on Drawings all changes which have been made other than those requested by the Engineer.
- B. Project Data and Samples: Resubmit new data and samples as specified for initial submittal, with the resubmittal number shown.

END OF SECTION

Part 1 General

1.1 Description

- A. Whenever reference is made to conforming to the standards of any technical society, organization, body, code or standard, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the time of advertisement for bids. This shall include the furnishing of materials, testing of materials, fabrication and installation practices. In those cases where the Contractor's quality standards establish more stringent quality requirements, the more stringent requirement shall prevail. Such standards are made a part hereof to the extent which is indicated or intended.
- B. The inclusion of an organization under one category does not preclude that organization's standards from applying to another category.
- C. In addition, all work shall comply with the applicable requirements of local codes, utilities and other authorities having jurisdiction.
- D. All material and equipment, for which a UL Standard, an AGA or NSF approval or an ASME requirement is established, shall be so approved and labeled or stamped. The label or stamp shall be conspicuous and not covered, painted, or otherwise obscured from visual inspection.
- E. The standards which apply to this Project are not necessarily restricted to those from organizations which are listed in Article 1.2.

1.2 Standard Organizations

A. Piping and Valves

ACPA	American Concrete Pipe Association
ANSI	American National Standards Institute
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
AWWA	American Water Works Association
CISPI	Cast Iron Soil Pipe Institute
DIPRA	Ductile Iron Pipe Research Association
FCI	Fluid Controls Institute
MSS	Manufacturers Standardization Society
NCPI	National Clay Pipe Institute
NSF	National Sanitation Foundation
PPI	Plastic Pipe Institute
Uni-Bell	PVC Pipe Association

Codes and Standards

B. Materials

AASHTO American Association of State Highway and Transportation Officials
ANSI American National Standards Institute
ASTM American Society for Testing and Materials

C. Painting and Surface Preparation

NACE National Association of Corrosion Engineers
SSPC Steel Structures Painting Council

D. Electrical and Instrumentation

AEIC Association of Edison Illuminating Companies
AIEE American Institute of Electrical Engineers
EIA Electronic Industries Association
ICEA Insulated Cable Engineers Association
IEC International Electrotechnical Commission
IEEE Institute of Electrical and Electronic Engineers
IES Illuminating Engineering Society
IPC Institute of Printed Circuits
IPCEA Insulated Power Cable Engineers Association
ISA The Instrumentation, Systems, and Automation Society
NEC National Electric Code
NEMA National Electrical Manufacturers Association
NFPA National Fire Protection Association
REA Rural Electrification Administration
TIA Telecommunications Industries Association
UL Underwriter's Laboratories
VRCI Variable Resistive Components Institute

E. Aluminum

AA Aluminum Association
AAMA American Architectural Manufacturers Association

F. Steel and Concrete

ACI American Concrete Institute
AISC American Institute of Steel Construction, Inc.
AISI American Iron and Steel Institute
CRSI Concrete Reinforcing Steel Institute
NRMA National Ready-Mix Association
PCA Portland Cement Association
PCI Prestressed Concrete Institute

G. Welding

ASME American Society of Mechanical Engineers
AWS American Welding Society

H. Government and Technical Organizations

AIA	American Institute of Architects
APHA	American Public Health Association
APWA	American Public Works Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASQC	American Society of Quality Control
ASSE	American Society of Sanitary Engineers
CFR	Code of Federal Regulations
CSI	Construction Specifications Institute
EDA	Economic Development Administration
EPA	Environmental Protection Agency
FCC	Federal Communications Commission
FmHA	Farmers Home Administration
FS	Federal Specifications
IAI	International Association of Identification
ISEA	Industrial Safety Equipment Association
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
NBFU	National Board of Fire Underwriters
(NFPA)	National Fluid Power Association
NBS	National Bureau of Standards
NISO	National Information Standards Organization
OSHA	Occupational Safety and Health Administration
SI	Salt Institute
SPI	The Society of the Plastics Industry, Inc.
USDC	United States Department of Commerce
WEF	Water Environment Federation

I. General Building Construction

AHA	American Hardboard Association
AHAM	Association of Home Appliance Manufacturers
AITC	American Institute of Timber Construction
APA	American Parquet Association, Inc.
APA	American Plywood Association
BHMA	Builders Hardware Manufacturers Association
BIFMA	Business and Institutional Furniture Manufacturers Association
DHI	Door and Hardware Institute
FM	Factory Mutual Fire Insurance Company
HPMA	Hardwood Plywood Manufacturers Association
HTI	Hand Tools Institute
IME	Institute of Makers of Explosives
ISANTA	International Staple, Nail and Tool Association
ISDSI	Insulated Steel Door Systems Institute
IWS	Insect Screening Weavers Association
MBMA	Metal Building Manufacturers Association
NAAMM	National Association of Architectural Metal Manufacturers
NAGDM	National Association of Garage Door Manufacturers

 Codes and Standards

NCCLS	National Committee for Clinical Laboratory Standards
NFPA	National Fire Protection Association
NFSA	National Fertilizer Solutions Association
NKCA	National Kitchen Cabinet Association
NWMA	National Woodwork Manufacturers Association
NWWDA	National Wood Window and Door Association
RMA	Rubber Manufacturers Association
SBC	SBCC Standard Building Code
SDI	Steel Door Institute
SIA	Scaffold Industry Association
SMA	Screen Manufacturers Association
SPRI	Single-Ply Roofing Institute
TCA	Tile Council of America
UBC	Uniform Building Code

J. Roadways

AREA	American Railway Engineering Association
DOT	Department of Transportation

K. Plumbing

AGA	American Gas Association
NSF	National Sanitation Foundation
PDI	Plumbing Drainage Institute
SPC	SBCC Standard Plumbing Code

L. Refrigeration, Heating, and Air Conditioning

AMCA	Air Movement and Control Association
ARI	American Refrigeration Institute
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
CGA	Compressed Gas Association
CTI	Cooling Tower Institute
HEI	Heat Exchange Institute
IIAR	International Institute of Ammonia Refrigeration
NB	National Board of Boilers and Pressure Vessel Inspectors
PFMA	Power Fan Manufacturers Association
SAE	Society of Automotive Engineers
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SMC	SBCC Standard Mechanical Code
TEMA	Tubular Exchangers Manufacturers Association

M. Equipment

AFBMA	Anti-Friction Bearing Manufacturers Association, Inc.
AGMA	American Gear Manufacturers Association
ALI	Automotive Lift Institute
CEMA	Conveyor Equipment Manufacturers Association

CMAA	Crane Manufacturers Association of America
DEMA	Diesel Engine Manufacturers Association
MMA	Monorail Manufacturers Association
OPEI	Outdoor Power Equipment Institute, Inc.
PTI	Power Tool Institute, Inc.
RIA	Robotic Industries Association
SAMA	Scientific Apparatus Makers Association

1.3 Symbols

- A. Symbols and material legends shall be as scheduled on the Drawings.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Scope

- A. This Section includes testing which the Owner may require, beyond that testing required of the manufacturer, to determine if materials provided for the Project meet the requirements of these Specifications.
- B. This work also includes all testing required by the Owner to verify work performed by the Contractor is in accordance with the requirements of these Specifications, i.e., concrete strength and slump testing, soil compaction, etc.
- C. This work does not include materials testing required in various sections of these Specifications to be performed by the manufacturer, e.g., testing of pipe.
- D. The testing laboratory or laboratories will be selected by the Owner. The testing laboratory or laboratories will work for the Owner.

1.2 Payment for Testing Services

- A. The cost of testing services required by the Contract to be provided by the Contractor shall be paid for by the Owner through the CASH ALLOWANCE, i.e., concrete testing, soil compaction, and asphalt testing.
- B. The cost of additional testing services not specifically required in the Specifications, but requested by the Owner or Engineer, shall be paid for by the Owner through the CASH ALLOWANCE.
- C. The cost of material testing described in various sections of these Specifications or as required in referenced standards to be provided by a material manufacturer, shall be included in the price bid for that item and shall not be paid for by the Owner.
- D. The cost of retesting any item that fails to meet the requirements of these Specifications shall be paid for by the Contractor. Retesting shall be performed by the testing laboratory working for the Owner.

1.3 Laboratory Duties

- A. Cooperate with the Owner, Engineer and Contractor.
- B. Provide qualified personnel promptly on notice.
- C. Perform specified inspections, sampling and testing of materials.
 - 1. Comply with specified standards, ASTM, other recognized authorities, and as specified.
 - 2. Ascertain compliance with requirements of the Contract Documents.

Testing Laboratory Services

- D. Promptly notify the Engineer and Contractor of irregularities or deficiencies of work which are observed during performance of services.
- E. Promptly submit three copies (two copies to the Engineer and one copy to the Contractor) of report of inspections and tests in addition to those additional copies required by the Contractor with the following information included:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Testing laboratory name and address.
 - 4. Name and signature of inspector.
 - 5. Date of inspection or sampling.
 - 6. Record of temperature and weather.
 - 7. Date of test.
 - 8. Identification of product and Specification section.
 - 9. Location of Project.
 - 10. Type of inspection or test.
 - 11. Results of test.
 - 12. Observations regarding compliance with the Contract Documents.
- F. Perform additional services as required.
- G. The laboratory is not authorized to release, revoke, alter or enlarge on requirements of the Contract Documents, or approve or accept any portion of the work.

1.4 Contractor Responsibilities

- A. Cooperate with laboratory personnel, provide access to work and/or comply with manufacturer's requirements.
- B. Provide to the laboratory, representative samples, in required quantities, of materials to be tested.
- C. Furnish copies of mill test reports.
- D. Furnish required labor and facilities to:

1. Provide access to work to be tested;
 2. Obtain and handle samples at the site;
 3. Facilitate inspections and tests;
 4. Build or furnish a holding box for concrete cylinders or other samples as required by the laboratory.
- E. Notify the laboratory sufficiently in advance of operation to allow for the assignment of personnel and schedules of tests.
- F. Laboratory Tests: Where such inspection and testing are to be conducted by an independent laboratory agency, the sample(s) shall be selected by such laboratory or agency, or the Engineer, and shipped to the laboratory by the Contractor at Contractor's expense.
- G. Copies of all correspondence between the Contractor and testing agencies shall be provided to the Engineer.

1.5 Quality Assurance

- A. Testing shall be in accordance with all pertinent codes and regulations and with procedures and requirements of the American Society for Testing and Materials (ASTM).

1.6 Product Handling

- A. Promptly process and distribute all required copies of test reports and related instructions to ensure all necessary retesting or replacement of materials with the least possible delay in the progress of the work.

1.7 Furnishing Materials

- A. The Contractor shall be responsible for furnishing all materials necessary for testing.

1.8 Code Compliance Testing

- A. Inspections and tests required by codes or ordinances or by a plan approval authority, and made by a legally constituted authority, shall be the responsibility of, and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.

1.9 Contractor's Convenience Testing

- A. Inspection or testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

1.10 Schedules for Testing

A. Establishing Schedule

1. The Contractor shall, by advance discussion with the testing laboratory selected by the Owner, determine the time required for the laboratory to perform its tests and to issue each of its findings, and make all arrangements for the testing laboratory to be on site to provide the required testing.
2. Provide all required time within the construction schedule.

B. When changes of construction schedule are necessary during construction, coordinate all such changes of schedule with the testing laboratory as required.

C. When the testing laboratory is ready to test according to the determined schedule, but is prevented from testing or taking specimens due to incompleteness of the work, all extra costs for testing attributable to the delay will be back-charged to the Contractor and shall not be borne by the Owner.

1.11 Taking Specimens

A. Unless otherwise provided in the Contract Documents, all specimens and samples for tests will be taken by the testing laboratory or the Engineer.

1.12 Transporting Samples

A. The Contractor shall be responsible for transporting all samples, except those taken by testing laboratory personnel, to the testing laboratory.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Scope

- A. The work specified in this Section consists of providing and maintaining temporary and permanent erosion and sedimentation controls as shown on the Drawings. This Section also specifies the subsequent removal of temporary erosion and sedimentation controls.
- B. Temporary and permanent erosion and sedimentation controls include grassing and mulching of disturbed areas and structural barriers at those locations which will ensure that erosion during construction will be maintained within acceptable limits. Acceptable limits are as established by the Tennessee Water Quality Control Act of 1977, as amended, Section 402 of the Federal Clean Water Act, and applicable codes, ordinances, rules, regulations and laws of local and municipal authorities having jurisdiction. For installation and maintenance guidance, refer to the Tennessee Erosion and Sediment Control Handbook, latest edition.
- C. Land disturbance activity shall not commence until the Land Disturbance Permit and all required stream crossing permits have been issued.
- D. Land disturbance permit shall be obtained and paid for by the Contractor.

1.2 Submittals

- A. Submit product data in accordance with the requirements of Section 01 33 00 of these Specifications.
- B. Prior to any construction activity, the Contractor shall submit, for the Engineer's approval, a schedule for the accomplishment of temporary and permanent erosion and sedimentation control work. No work shall be started until the erosion and sedimentation control schedule and methods of operation have been approved by the Engineer.

1.3 Quality Assurance

- A. The temporary and permanent erosion and sedimentation control measures shown on the Drawings are minimum requirements. Any additional erosion and sedimentation control measures required by the Contractor's means, methods, techniques and sequence of operation will be installed by the Contractor at no additional cost to the Owner.
- B. Perform all work under this Section in accordance with all pertinent rules and regulations including, but not necessarily limited to, those stated in these Specifications. Where provisions of pertinent rules and regulations conflict with these Specifications, the more stringent provisions shall govern.

Erosion and Sedimentation Control

- C. Provide all materials and promptly take all actions necessary to achieve effective erosion and sedimentation control in accordance with the Tennessee Water Quality Control Act of 1977, as amended, local ordinances, other permits, local enforcing agency guidelines and these Specifications.

- D. Basic Principles
 - 1. Coordinate the land disturbance activities to fit the topography, soil types and conditions.
 - 2. Minimize the disturbed area and the duration of exposure to erosive elements.
 - 3. Provide temporary or permanent stabilization to disturbed areas immediately after rough grading is complete.
 - 4. Safely convey run-off from the site to a stable outlet to prevent flooding and damage to downstream facilities resulting from increased runoff from the site.
 - 5. Retain sediment on-site that was generated on-site.
 - 6. Minimize encroachment upon watercourses.

- E. Implementation
 - 1. The Contractor is solely responsible for the control of erosion within the Project site and the prevention of sedimentation from leaving the Project site or entering waterways.
 - 2. The Contractor shall install temporary and permanent erosion and sedimentation controls which will ensure that runoff from the disturbed area of the Project site shall pass through a filter system before exiting the Project site.
 - 3. The Contractor shall provide temporary and permanent erosion and sedimentation control measures to prevent silt and sediment from entering the waterways. The Contractor will obtain a Land Disturbance Permit that allows encroachments on the 60 foot vegetative buffer in specific areas. The Contractor shall exercise extreme care during land disturbance operations within the 60 foot vegetative buffer to prevent degradation of the stream.
 - 4. The Contractor shall limit land disturbance activity to those areas shown on the Drawings.
 - 5. The Contractor shall maintain erosion and sedimentation control measures within disturbed areas on the entire site at no additional cost to the Owner until the acceptance of the Project. Maintenance shall include mulching, re-seeding, clean-out of sediment barriers and sediment ponds, replacement of washed-out or undermined rip rap and erosion control materials, to the satisfaction of the Engineer.

6. All fines imposed for improper erosion and sedimentation control shall be paid by the Contractor.
7. The Contractor shall use all means necessary to control dust on and near the work and all off-site borrow areas, in accordance with the Tennessee Erosion and Sediment Control Handbook, latest edition. The Contractor should thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors and concurrent performance of work on the site.

Part 2 Products

2.1 Sediment Barriers

A. Silt Fence

1. Type A silt fence shall meet the requirements of Tennessee Erosion and Sediment Control Handbook, latest edition. Posts shall be 4 feet in length and can either be made of steel, soft wood or oak. Steel posts shall be 1.3lb./ft. minimum. Soft wood post shall be 3" diameter or 2" x 4". Oak posts shall be 1.5" x 1.5". Fasteners for wood posts shall be wire staples or nails. Wire staples are to have a minimum 17 gauge, $\frac{3}{4}$ " crown width, and a $\frac{1}{2}$ " leg length. Nails are to have a minimum 14 gauge, $\frac{3}{4}$ " button head, and a 1" length.
2. Type C silt fence is a combination of Type A silt fence fabric with woven wire reinforcement. Type C silt fence woven wire reinforcement shall meet the requirements of Tennessee Erosion and Sediment Control Handbook, latest edition. Posts shall be 4 feet in length and shall be made of steel. Steel posts shall be 1.3lb./ft. minimum.
3. Silt fence fabric shall meet the requirements of the Tennessee Erosion and Sediment Control Handbook, latest edition.

2.2 Check Dams

A. Stone Check Dams

1. Stone check dams shall be constructed of graded size 2 10-inch stone.
2. The geotextile shall be in accordance with AASHTO M288 Section 7.3, Separation Requirements, Table 3.

B. Rock Check Dams

1. Stone sizing: The stone size shall be determined by the design criteria established in the Rip Rap section - Tennessee Erosion and Sediment Control Handbook, latest edition. The rock dam can be faced with smaller stone on the upstream side for additional filtering effect.

Erosion and Sedimentation Control

2. Geotextile: Geotextiles shall be used as a separator between the graded stone, the soil base, and the abutments. The geotextile shall be specified in accordance with AASHTO M288 Section 7.5, Permanent Erosion Control Recommendations.

2.3 Construction Exit

- A. Stone: Use sound, tough, durable stone resistant to the action of air and water. Slabby or shaley pieces will not be acceptable. Aggregate size shall be TDOT #1 or #2 stone (1.5 to 3.5-inch stone).
- B. Geotextile: The geotextile underliner must be placed the full length and width of the entrance. Geotextile selection shall be based on AASHTO M288-98 specification:
 1. For subgrades with a CBR greater than or equal to 3 or shear strength greater than 90 kPa, geotextile must meet requirements of section AASHTO M288 Section 7.3, Separation Requirements.
 2. For subgrades with a CBR between 1 and 3 or sheer strength between 30 and 90 kPa, geotextile must meet requirements of AASHTO M288 Section 7.4, Stabilization Requirements.

2.4 Temporary Mulching

- A. Dry straw or hay: Shall be applied at a depth of 2 to 4 inches providing complete soil coverage. Material shall be clean, seed-free cereal hay or straw.
- B. Wood waste (chips, sawdust or bark): Shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of development should remain on site, be chipped, and applied as mulch.
- C. Mulch Binder: Mulch on slopes exceeding 3 (horizontal) to 1 (vertical) shall be held in place by the use of a mulch binder, as approved by the Engineer. The mulch binder shall be non-toxic to plant and animal life and shall be approved by the Engineer.

2.5 Temporary Grassing

- A. Grassing materials shall meet the requirements of the Tennessee Erosion and Sediment Control Handbook, latest edition, section that includes "Disturbed Area Stabilization (With Temporary Vegetation)".
- B. Seed rate, fertilization, lime application and other requirements shall be provided as shown on the Drawings.
- C. Water: Water shall be free of excess and harmful chemicals, organisms and substances which may be harmful to plant growth or obnoxious to traffic. Salt or brackish water shall not be used. Water shall be furnished by the Contractor.

Part 3 Execution

3.1 General

- A. Temporary and permanent erosion and sedimentation control measures shall prevent erosion and prevent sediment from exiting the site. If, in the opinion of the Engineer, the Contractor's temporary erosion and sedimentation control measures are inadequate, the Contractor shall provide additional maintenance for existing measures or additional devices to control erosion and sedimentation on the site at no additional cost to the Owner.
- B. All erosion and sedimentation control devices and structures shall be inspected by the Qualified Personnel as defined in Section 01 57 23 of the Specifications at least once a week and within 24 hours of the end of a storm that is 0.5 inches or greater. Any device or structure found to be damaged will be repaired or replaced by the end of the day.
- C. All erosion and sedimentation control measures and devices shall be constructed and maintained as indicated on the Drawings or specified herein until adequate permanent disturbed area stabilization has been provided and accepted by the Engineer. Once adequate permanent stabilization has been provided and accepted by the Engineer, all temporary erosion and sedimentation control structures and devices shall be removed.

3.2 Installation and Maintenance of Erosion and Sediment Controls

- A. Sediment Barriers
 - 1. Sediment barriers shall include but are not necessarily limited to silt fences and any device which prevents sediment from exiting the disturbed area.
 - 2. Sediment barriers shall not be used in any flowing stream, creek or river.
 - 3. Sediment barriers shall be installed as shown on the Drawings and as directed by the Engineer.
 - 4. Along stream buffers and other sensitive areas, two rows of Type C silt fence or one row of Type C silt fence backed by hay bales shall be used.
 - 5. Sediment barriers shall be maintained to ensure the depth of impounded sediment is no more than one-half of the original height of the barrier or as directed by the Engineer. Torn, damaged, destroyed or washed-out barriers shall be repaired, reinforced or replaced with new material and installed as shown on the Drawings and as directed by the Engineer.
 - 6. Sediment Barrier Removal

Erosion and Sedimentation Control

- a. Sediment barrier shall be removed once the disturbed area has been stabilized with a permanent vegetative cover and the sediment barrier is no longer required as directed by the Engineer.
- b. Accumulated sediment shall be removed from the barrier and spread over the site.
- c. All non-biodegradable parts of the barrier shall be disposed of properly.
- d. The disturbed area created by barrier removal shall be permanently stabilized.

B. Check and Rock Dams

1. Check and rock dams shall not be used in any flowing stream, creek or river.
2. Check and rock dams shall be installed as shown on the Drawings and as directed by the Engineer.
3. Stone check dams: Mechanical or hand placement shall be required to insure complete coverage of entire width of ditch or swale and that center of dam is lower than edges.
4. Rock dams: Mechanical or hand placement will be required to insure that the rock dam extends completely across the channel and securely ties into both channel banks. The center of the dam must be no less than six inches lower than the lowest side, to serve as a type of weir. Gabions can be installed to serve as rock filter dams but should follow recommended sizing and installation specifications. Refer to Gabions in this specification.
5. Height: The center of the check dam must be at least 9 inches lower than outer edges. Dam height should be 2 feet maximum measured to center of check dam.
6. Side Slopes: Side slopes shall be 2:1 or flatter.
7. Spacing: Two or more check dams in series shall be used for drainage areas greater than one acre. Maximum spacing between dams should be such that the toe of the upstream dam is at the same elevation as the top of the downstream dam.
8. A geotextile should be used as a separator between the graded stone and the soil base and abutments. The geotextile shall be placed immediately adjacent to the subgrade without any voids and extend five feet beyond the downstream toe of the dam to prevent scour.
9. Check and rock dams shall be maintained to ensure the depth of impounded sediment is no more than one-half of the original height of the check dam or as directed by the Engineer. Damaged, destroyed or washed-out check dams shall

be repaired, reinforced or replaced with new material and installed as shown on the Drawings and as directed by the Engineer.

10. Check and Rock Dams removal

- a. Check and rock dams shall be removed [shall remain] once the disturbed area has been stabilized with a permanent vegetative cover and the sediment barrier is no longer required as directed by the Engineer.
- b. Accumulated sediment shall be removed from the check and rock dams when it reaches a depth of one-half of the original height of the dam and removed from the site.
- c. All non-biodegradable parts of the barrier shall be disposed of properly.
- d. The disturbed area created by check or rock dam removal shall be permanently stabilized.

C. Construction Exit

1. Construction exit(s) shall be placed as shown on the Drawings and as directed by the Engineer. A construction exit shall be located at any point traffic will be leaving a disturbed area to a public right-of-way, street, alley, sidewalk or parking area.
2. Placement of Construction Exit Material: The ground surface upon which the construction exit material is to be placed shall be prepared to a smooth condition free from obstructions, depressions or debris. The geotextile underliner shall be placed to provide a minimum number of overlaps and a minimum width of one foot of overlap at each joint. The stone shall be placed with its top elevation conforming to the surrounding roadway elevations. The stone shall be dropped no more than three feet during construction.
3. Construction Exit Maintenance: The Contractor shall regularly maintain the exit with the top dressing of stone to prevent tracking or flow of soil onto public rights-of-way and paved surfaces as directed by the Engineer. This shall require periodic top dressing with 1.5-3.5 inch stone, as conditions demand.
4. Construction Exit Removal: Construction exit(s) shall be removed and properly disposed of when the disturbed area has been properly stabilized, the tracking or flow of soil onto public rights-of-way or paved surfaces has ceased and as directed by the Engineer.

D. Rip Rap

1. Rip rap shall be placed as shown on the Drawings and as directed by the Engineer. Rip rap shall be placed at all points where natural vegetation is disturbed on the banks of streams or drainage ditches. Compact backfill and place rip rap to prevent subsequent settlement and erosion. This requirement

applies equally to construction along side a stream or drainage ditch as well as crossing a stream or drainage ditch.

2. When trenching across a stream or drainage ditch, place rip rap over the entire disturbed area upstream and downstream of the trench excavation. Place rip rap across creek bottom, across creek banks and extend rip rap placement five feet beyond the top of each creek bank.
3. Preparation of Foundations: The ground surface upon which the rip rap is to be placed shall be brought to the correct lines and grades before placement is commenced. Where filling of depressions is required, the new material shall be compacted with hand or mechanical tampers. Unless at creek banks or otherwise shown or specified, rip rap shall begin in a toe ditch constructed in original ground around the toe of the fill or the cut slope. The toe ditch shall be two feet deep in original ground, and the side next to the fill or cut shall have that same slope. After the rip rap is placed, the toe ditch shall be backfilled and the excess dirt spread neatly within the construction easement or on the site.
4. Placement of Plastic Filter Fabric
 - a. Plastic filter fabric shall be placed under all rip rap unless shown or specified otherwise.
 - b. Filter fabric shall not be placed under rip rap on stream or drainage ditch crossings.
 - c. The surface to receive filter fabric shall be prepared to a smooth condition free from obstructions, depressions and debris. The filter fabric shall be installed with the long dimension running up the slope and shall be placed to provide a minimum number of overlaps. The fabric shall be placed to provide a minimum width of one foot of overlap at each joint. The fabric shall be placed so that the upstream strip overlaps the downstream strip. The fabric shall be anchored in place with securing pins of the type recommended by the fabric manufacturer. Pins shall be placed on or within 3-inches of the centerline of the overlap. The fabric shall be placed loosely to avoid stretching and tearing during placement of the stone. The fabric shall be protected at all times during construction from clogging due to clay, silts, chemicals or other contaminants. Contaminated fabric or fabric damaged during installation or during placement of rip rap shall be removed and replaced with uncontaminated and undamaged fabric at no additional cost to the Owner.
5. Placement of Rip Rap: Rip rap shall be placed on a 6-inch layer of soil, crushed stone or sand overlaying the filter fabric. Rip rap shall be placed with its top elevation conforming with the finished grade or the natural existing slope of the stream bank and stream bottom. The stone shall be dropped no more than three feet during construction.

- a. Stone Rip Rap: Stone rip rap shall be placed to provide a uniform surface to the thickness shown on the Drawings. The thickness tolerance for the course shall be -3-inches and +6-inches.

E. Temporary Sediment Basin

1. Site Preparation: Areas under the embankment and under structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed and disposed of by approved methods. In order to facilitate clean-out or restoration, the pool area (measured at the top of the pipe spillway) will be cleared of all brush and trees.
2. Cut-off Trench: A cut-off trench will be excavated along the centerline of earth fill embankments. The minimum depth shall be 2 feet. The cut-off trench shall extend up both abutments to the riser crest elevation. The minimum bottom width shall be 4 feet, but wide enough to permit operation of compaction equipment. The side slopes shall be no steeper than 1:1. Compaction requirements shall be the same as those for the embankment. The trench shall be drained during the backfilling and compaction operations.
3. Embankment: The fill material shall be taken from approved areas shown on the Drawings. It shall be clean mineral soil free of roots, woody vegetation, oversized stones, rocks or other objectionable material. Relatively pervious materials such as sand or gravel (Unified Soil Classes GW, GP, SW & SP) shall be placed in the downstream section of the embankment. Areas on which fills are to be placed shall be scarified prior to placement of fill. The fill material shall contain sufficient moisture so that it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Fill material shall be placed in six-inch to eight-inch thick continuous layers over the entire length of the fill. Compaction shall be obtained by routing and hauling the construction equipment over the fill so that the entire surface of the fill is traversed by at least one wheel or tread track of the equipment or by the use of a compactor. The embankment shall be constructed to an elevation 5 percent higher than the design height to allow for settlement.
4. Principal Spillway: The riser shall be securely attached to the pipe or pipe stub by welding the full circumference making a watertight structural connection. The pipe stub must be attached to the riser at the same percent (angle) of grade as the outlet conduit. The connection between the riser and the riser base shall be watertight. All connections between pipe sections must be achieved by approved watertight band assemblies. The pipe and riser shall be placed on a firm, smooth foundation of impervious soil as the embankment is constructed. Breaching the embankment is unacceptable. Pervious materials such as sand, gravel, or crushed stone shall not be used as backfill around the pipe or anti-seep collar. The fill material around the pipe spillway shall be placed in four inch layers and compacted under and around the pipe to at least the same density as the adjacent embankment. Care must be taken not to raise the pipe from firm contact with its foundation when compacting under the pipe haunches. A

Erosion and Sedimentation Control

minimum depth of two feet of hand compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment.

5. **Emergency Spillway:** The emergency spillway shall be installed in undisturbed ground. The achievement of planned elevations, grades, design width, entrance and exit channel slopes are critical to the successful operation of the emergency spillway and must be constructed within a tolerance of ± 0.2 feet. If the emergency spillway requires erosion protection other than vegetation, the lining shall not compromise the capacity of the emergency spillway, e.g. the emergency spillway shall be over-excavated so that the lining will be flush with the slope surface.
6. **Vegetative Treatment:** Stabilize the embankment and all other disturbed areas in accordance with the appropriate permanent vegetative measure, see Specification 32 92 19 - Seeding, immediately following construction. In no case shall the embankment remain unstabilized for more than seven days.
7. **Erosion and Pollution Control:** Construction operations will be carried out in such a manner that erosion and water pollution will be minimized. State and local law concerning pollution abatement shall be complied with.
8. **Maintenance:** Repair all damages caused by soil erosion or construction equipment at or before the end of each working day. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser. Sediment shall not enter adjacent streams or drainage ways during sediment removal or disposal. The sediment shall not be deposited downstream from the embankment, adjacent to a stream or floodplain.
9. **Final Disposal:** When temporary structures have served their intended purpose and the contributing drainage area has been properly stabilized, the embankment and resulting sediment deposits are to be leveled or otherwise disposed of in accordance with approved sediment control plan. The proposed use of a sediment basin site will often dictate final disposition of the basin and any sediment contained therein. If the site is scheduled for future construction, then the embankment and trapped sediment must be removed, safely disposed of, and backfilled with a structural fill. When the basin area is to remain open space, the pond may be pumped dry, graded and backfilled.

F. Temporary Mulching

1. When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area. Mulch shall be applied as follows:
 - a. Dry straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.
 - b. If the area will eventually be covered with perennial vegetation, 20-30 pounds of nitrogen per acre in addition to the normal amount shall

be applied to offset the uptake of nitrogen caused by the decomposition of the organic mulches.

- c. Apply mulch binder on exposed areas, where indicated on the Drawings or as instructed by the Engineer.

2. Anchoring Mulch:

- a. Straw or hay mulch can be pressed into the soil with a disk harrow with the disk set straight or with a special "packer disk." Disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position.
- b. Straw or hay mulch shall be anchored immediately after application.
- c. Straw or hay mulch spread with special blower-type equipment may be anchored with emulsified asphalt (Grade AE-5 or SS-1). The asphalt emulsion shall be sprayed onto the mulch as it is ejected from the machine. Use 100 gallons of emulsified asphalt and 100 gallons of water per ton of mulch.
- d. For straw or hay mulch, plastic mesh or netting with mesh no larger than one inch by one inch shall be installed according to manufacturer's specifications.
- e. Netting of the appropriate size shall be used to anchor wood waste. Openings of the netting shall not be larger than the average size of the wood waste chips.

G. Temporary Grassing

1. Seed Bed Preparation:

- a. When a hydraulic seeder is used, seedbed preparation is not required.
- b. When using conventional or hand seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall.
- c. When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be pitted, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

2. Select a grass or grass-legume mixture suitable to the area and season of the year.

3. Seed shall be applied uniformly by hand, cyclone seeder, drill, cultipacker seeder, or hydraulic seeder (slurry including seed and fertilizer). Drill or

Erosion and Sedimentation Control

cultipacker seeders should normally place seed one-quarter to one-half inch deep. Appropriate depth of planting is ten times the seed diameter.

4. Soil should be "raked" lightly to cover seed with soil if seeded by hand.
5. Irrigation: During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will insure germination of the seed. Subsequent applications should be made when needed.
6. Temporary Stabilization: Temporary stabilization shall be provided as shown on the Drawings and conforming to these Specifications to control erosion on the site. Temporary stabilization shall be provided to any area which will not receive permanent stabilization within the next 7 calendar days. Partial payment requests may be withheld for those portions of the Project not complying with this requirement.

H. Permanent Grassing and Sodding

1. Refer to Specifications 32 92 19 - Permanent Seeding and 32 92 23 - Permanent Sodding and the seeding table contain within the Drawings for installation and maintenance.
2. Permanent Stabilization:
 - a. Permanent stabilization shall be provided as shown on the Drawings and conforming to these Specifications to control erosion on the site. Permanent stabilization shall be provided to all areas of land disturbance within seven calendar days of the completion of land disturbance for any area greater than 0.25 acre.
 - b. Grass or sod removed or damaged in residential areas shall be replanted with the same variety within seven calendar days of the completion of work in any area.
 - c. Where permanent stabilization cannot be immediately established because of an inappropriate season, the Contractor shall provide temporary stabilization. The Contractor shall return to the site at the appropriate season to provide permanent stabilization in areas that received only temporary stabilization.

3.3 Clean-Up

- A. Dispose of all excess erosion and sedimentation control materials in a manner satisfactory to the Engineer.
- B. All temporary erosion control measures shall be removed after final stabilization of the site has occurred, unless otherwise noted on the Drawings or instructed by the Engineer.

- C. Final clean-up shall be performed in accordance with the requirements of Section 01 74 00 of these Specifications.

END OF SECTION

Part 1 General

1.1 Scope

- A. The Contractor shall provide transportation of all equipment, materials and products furnished under these Contract Documents to the work site. In addition, the Contractor shall provide preparation for shipment, loading, unloading, handling and preparation for installation and all other work and incidental items necessary or convenient to the Contractor for the satisfactory prosecution and completion of the work.
- B. All equipment, materials and products damaged during transportation or handling shall be repaired or replaced by the Contractor at no additional cost to the Owner prior to being incorporated into the work.

1.2 Transportation

- A. All equipment shall be suitably boxed, crated or otherwise protected during transportation.
- B. Where equipment will be installed using existing cranes or hoisting equipment, the Contractor shall ensure that the weights of the assembled sections do not exceed the capacity of the cranes or hoisting equipment.
- C. Small items and appurtenances such as gauges, valves, switches, instruments and probes which could be damaged during shipment shall be removed from the equipment prior to shipment, packaged and shipped separately. All openings shall be plugged or sealed to prevent the entrance of water or dirt.

1.3 Handling

- A. All equipment, materials and products shall be carefully handled to prevent damage or excessive deflections during unloading or transportation.
- B. Lifting and handling drawings and instructions furnished by the manufacturer or supplier shall be strictly followed. Eyebolts or lifting lugs furnished on the equipment shall be used in handling the equipment. Spreader bars or lifting beams shall be used when the distance between lifting points exceeds that permitted by standard industry practice.
- C. Under no circumstances shall equipment or products such as pipe, structural steel, castings, reinforcement, lumber, piles, poles, etc., be thrown or rolled off of trucks onto the ground.
- D. Slings and chains shall be padded as required to prevent damage to protective coatings and finishes.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Product Storage and Handling Requirements

Part 1 General

1.1 Scope

- A. The work under this Section includes, but is not necessarily limited to, the furnishing of all labor, tools and materials necessary to properly store and protect all materials, equipment, products and the like, as necessary for the proper and complete performance of the work.

1.2 Storage and Protection

A. Storage

1. Maintain ample way for foot traffic at all times, except as otherwise approved by the Owner.
2. All property damaged by reason of storing of material shall be properly replaced at no additional cost to the Owner.
3. Packaged materials shall be delivered in original unopened containers and so stored until ready for use.
4. All materials shall meet the requirements of these Specifications at the time that they are used in the work.
5. Store products in accordance with manufacturer's recommendations.

B. Protection

1. Use all means necessary to protect the materials, equipment and products in accordance with manufacturer's recommendations of every section before, during and after installation and to protect the installed work and materials of all other trades.
2. All materials shall be delivered, stored and handled to prevent the inclusion of foreign materials and damage by water, breakage, vandalism or other causes.
3. Substantially constructed weather-tight storage sheds, with raised floors, shall be provided and maintained as may be required to adequately protect those materials and products stored on the site which may require protection from damage by the elements.

- C. Replacements: In the event of damage, immediately make all repairs and replacements necessary for the approval of the Owner and at no additional cost to the Owner.

- D. Equipment and products stored outdoors shall be supported above the ground on suitable wooden blocks or braces arranged to prevent excessive deflection or bending

between supports. Items such as pipe, structural steel and sheet construction products shall be stored with one end elevated to facilitate drainage.

- E. Unless otherwise permitted in writing by the Owner, building products and materials such as cement, grout, plaster, gypsumboard, particleboard, resilient flooring, acoustical tile, paneling, finish lumber, insulation, wiring, etc., shall be stored indoors in a dry location. Building products such as rough lumber, plywood, concrete block and structural tile may be stored outdoors under a properly secured waterproof covering.
- F. Tarps and other coverings shall be supported above the stored equipment or materials on wooden strips to provide ventilation under the cover and minimize condensation. Tarps and covers shall be arranged to prevent ponding of water.

1.3 Extended Storage

- A. In the event that certain items of major equipment such as air compressors, pumps and mechanical aerators have to be stored for an extended period of time, the Contractor shall provide satisfactory long-term storage facilities which are acceptable to the Owner. The Contractor shall provide all special packaging, protective coverings, protective coatings, power, nitrogen purge, desiccants, lubricants and exercising necessary or recommended by the manufacturer to properly maintain and protect the equipment during the period of extended storage.

1.4 Owner Furnished Equipment

- A. The Contractor shall provide storage and protection for all Owner furnished equipment and materials, including extended storage as specified above.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Scope

- A. Construction staking shall include all of the surveying work required to layout the work and control the location of the finished Project. The Contractor shall have the full responsibility for constructing the Project to the correct horizontal and vertical alignment, as shown on the Drawings, as specified, or as ordered by the Engineer. The Contractor shall assume all costs associated with rectifying work constructed in the wrong location.
- B. From the information shown on the Drawings and the information to be provided as indicated under Project Conditions below, the Contractor shall:
 - 1. Be responsible for setting reference points and/or offsets, establishment of baselines, and all other layout, staking, and all other surveying required for the construction of the Project.
 - 2. Safeguard all reference points, stakes, grade marks, horizontal and vertical control points, and shall bear the cost of re-establishing same if disturbed.
 - 3. Stake out the permanent and temporary easements or the limits of construction to ensure that the work is not deviating from the indicated limits.
 - 4. Be responsible for all damage done to reference points, baselines, center lines and temporary bench marks, and shall be responsible for the cost of re-establishment of reference points, baselines, center lines and temporary bench marks as a result of the operations.
- C. Baselines shall be defined as the line to which the location of the work is referenced, i.e., edge of pavement, road centerline, property line, right-of-way or survey line.
- D. Record Drawing surveys shall be performed in accordance with Section 01 78 39 of these Specifications.

1.2 Project Conditions

- A. The Drawings provide the location and/or coordinates of principal components of the Project. The alignment of some components of the Project may be indicated in the Specifications. The Engineer may order changes to the location of some of the components of the Project or provide clarification to questions regarding the correct alignment.
- B. The survey points, control points, and baseline to be provided to the Contractor shall be limited to only that information which can be found on the Project site by the Contractor.

Construction Layout

- C. Additionally, the Engineer will provide the following:
 - 1. A minimum of two horizontal control points on the Project site with their coordinates shown on the Drawings.

1.3 Quality Assurance

- A. The Contractor shall furnish documentation, prepared by a surveyor currently registered in the State in which the Project is located, confirming that staking is being done to the horizontal and vertical alignment shown in the Contract Documents. This requires that the Contractor hire, at the Contractor's own expense, a currently registered surveyor, acceptable to the Owner, to provide ongoing construction staking or confirmation of such.
- B. Any deviations from the Drawings shall be confirmed by the Engineer prior to construction of that portion of the Project.
- C. Construction Surveying Cash Allowance
 - 1. This cash allowance is solely for the use of the Engineer for verification of the Contractor's reference points, centerlines and work performed and is not to be used by the Contractor to provide cut sheets.
 - 2. The presence of this cash allowance in no way relieves the Contractor of the responsibility of installing reference points, centerlines, temporary benchmarks, verifying that the work has been performed accurately, and all other work covered by this Section.

1.4 Pressure Mains and Accessories

- A. Staking Precision: The precision of construction staking required shall be that which the correct location of the main can be established for construction and verified by the Engineer. Where the location of components of the main, e.g. fittings, valves, road crossings and are not dimensioned, the establishment of the location of these components shall be based upon scaling these locations from the Drawings with relation to readily identifiable land marks, e.g., survey reference points, power poles, manholes, etc.
- B. Reference Points
 - 1. Reference points shall be placed, at or no more than three feet, from the outside of the construction easement or right-of-way. The location of the reference points shall be recorded in a log with a copy provided to the Engineer for use, prior to verifying reference point locations. Distances shall be accurately measured to 0.01 foot.
 - 2. The Contractor shall give the Engineer reasonable notice that reference points are set. The reference point locations must be verified by the Engineer prior to commencing clearing and grubbing operations.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Work Included

- A. Section includes requirements for cleanup, re-stabilization, restoration, and disposal to maintain a safe and well-kept job site and properly repair disturbed areas.

1.2 Quality Assurance

- A. Daily, and more often if necessary, conduct inspections verifying that requirements of cleanliness are being met.
- B. In addition to the standards described in this Section, comply with all pertinent requirements of governmental agencies having jurisdiction.

1.3 Cleaning Materials and Equipment

- A. Provide all required personnel, equipment and materials needed to maintain the specified standard of cleanliness.
- B. Use only the cleaning materials, methods and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Engineer.

1.4 Cleaning During Construction

- A. (For Interior Areas) Proceed with construction cleanup concurrently with construction progress.
 - 1. Remove mud, oil, grease, soil, gravel, trash, scrap, debris, and excess materials that are unsightly or may cause accidents to persons or properties.
 - 2. Remove water from floor areas where electrical power tools are to be used and prevent stains on concrete that will be exposed in finish work.
 - 3. Select and employ cleaning materials and equipment with care to avoid scratching, marring, defacing, staining, or discoloring surfaces cleaned.
- B. (For Exterior Areas) Throughout all phases of construction, including suspension of work, and until the Final Acceptance, the Contractor shall keep the site clean and free from rubbish and debris. The Contractor shall also abate dust nuisance by cleaning, sweeping and sprinkling with water, or other means as necessary. The use of water resulting in mud on driveways, parking lots or streets will not be permitted as a substitute for sweeping or other methods.
 - 1. The road(s) on the construction site shall be paved immediately after the installation of underground utilities and the construction and underground/final

inspection of storm drainage, curbs, and gutters. The exit road on the construction site shall be paved first.

2. Vehicles exiting the construction site shall have all dirt clods and mud removed from their tires.
 3. Materials and equipment shall be removed from the site as soon as they are no longer necessary. Before the final inspection, the site shall be cleared of equipment, unused materials and rubbish so as to present a satisfactory clean and neat appearance. All cleanup costs shall be included in the Contractor's Bid.
 4. Care shall be taken to prevent spillage on haul routes. Any such spillage shall be removed immediately, and the area cleaned.
 5. Excess excavated material from catch basins or similar structures shall be removed from the site immediately. Sufficient material may remain for use as backfill if permitted by the Specifications. Forms and form lumber shall be removed from the site as soon as practicable after stripping.
- C. Failure of the Contractor to comply with the Engineer's cleanup orders may result in an order to suspend work until the condition is corrected. No additional compensation will be allowed as a result of such suspension.

1.5 Final Cleaning

- A. Upon completion of the work, the Contractor shall remove from the site all plant, materials, tools and equipment belonging to him, and leave the site with an appearance acceptable to the Owner.
- B. Thoroughly clean all equipment and materials installed and deliver over such materials and equipment in a bright, clean, polished and new appearing condition.
- C. Restore or replace all landscape features scarred or damaged by the Contractor's equipment or operations as nearly as possible to original condition, at the Contractor's expense. The Owner will approve the method of restoration to be used.
- D. The Contractor shall remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other vestiges of construction, as directed by the Owner. It is anticipated that excavation, filling and plowing of roadways will be required to restore the area to near natural conditions which will permit the growth of vegetation thereon. The restored areas shall be filled, graded, and spread with sufficient topsoil to provide a minimum depth of four inches of suitable soil for the growth of grass, and the entire area shall be seeded or sodded with the original type of grass. Areas shall be restored to original contours as shown on the Plans. If the Plans do not cover the specific areas to be restored, the areas shall be graded to drain and give a smooth transition to the surroundings.

1.6 Measurement and Payment

- A. No separate payment will be made for any items of work, materials, parts, equipment, supplies, or related items required to perform and complete the requirements of this section. The costs for all such items required shall be considered subsidiary to other items of this Contract and shall not be paid for separately.

1.7 Disposal of Waste

- A. Except for items or materials to be salvaged, recycled, or otherwise reused, and except for options available below for vegetative waste generated by clearing and grubbing operations, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
- B. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
- C. Remove and transport waste in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Vegetative waste generated by clearing and grubbing operations may be disposed of by mulching. Timber within the areas cleared shall become the property of the Contractor. The Contractor may cut, trim, hew, saw or otherwise dress felled timber within the limits of the work area, provided all timber and all waste materials are disposed of as specified. All residual matter from mulching operations shall be removed from the Project site as waste in accordance with the provisions of this section of the Specifications.
- D. Waste removed from the Project site shall be disposed of in sites permitted by the Tennessee Department of Environment and Conservation (TDEC) for the acceptance of type of waste being disposed in accordance with Rules of TDEC Solid Waste Management, including Chapter 0400-11-01. Landfill types include
 - 1. Class I Landfills - municipal solid waste, household waste, shredded/waste tires.
 - 2. Class II Landfills - industrial waste.
 - 3. Class III Landfills - farming wastes, landscaping and land clearing wastes.
 - 4. Class IV Landfills - construction and demolition waste.
- E. Exceptions to Paragraph E are as follows:
 - 1. Certain other wastes (such as medical/infectious waste, dead animals, sludges, pesticides wastes, hazardous wastes, asbestos) require special waste approval prior to disposal. See the TDEC Environmental Permitting Handbook for more information.

Cleaning and Waste Management

2. Hazardous waste shall be disposed of in accordance with Rules of TDEC Solid Waste Management, including but not limited to Chapter 0400-12-01 and the rules and regulations of the United States Environment Protection Agency (EPA).
 3. Asbestos-containing waste shall also be handled and disposed in accordance with TCA 68-201-101 et seq, Rules of the Tennessee Department of Health, and TDEC Bureau of Environmental Health Services, Division of Air Pollution, including Chapter 1200-3-11-.02 and 40 CFR 61.
 4. Excess earth material and excess excavated rock material may be placed on sites for which the Contractor provides to the Owner a signed affidavit from the property owner that the placement of such material is acceptable to the property owner. The Contractor and property owner shall be responsible for all permitting of such disposal.
- F. No waste shall be placed at a transfer station facility.
- G. The Contractor shall maintain records related to all waste removed from the Project site so as to allow the Owner or the Engineer to readily determine the following:
1. Date waste removed from Project site.
 2. Name of hauler (company and driver) transporting such waste.
 3. General description of waste transported.
 4. "Truck tickets" indicating the waste disposal site and amount of waste disposed therein.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Scope

- A. The work under this Section includes, but is not necessarily limited to, the compiling, maintaining, recording and submitting of Project record documents as herein specified.
- B. Record documents include, but are not limited to:
 - 1. Drawings;
 - 2. Specifications;
 - 3. Change orders and other modifications to the Contract;
 - 4. Engineer field orders or written instructions, including Requests for Information (RFI) and Clarification Memorandums;
 - 5. Reviewed shop drawings, product data and samples;
 - 6. Test records.
- C. The Contractor shall maintain on the Project site throughout the Contract Time an up to date set of Record Drawings.

1.2 Maintenance of Documents and Samples

- A. Storage
 - 1. Store documents and samples in the Contractor's field office, apart from documents used for construction.
 - 2. Provide files and racks for storage of documents.
 - 3. Provide locked cabinet or secure storage space for storage of samples.
- B. File documents and samples in accordance with format of these Specifications.
- C. Maintenance
 - 1. Maintain documents in a clean, dry, legible condition and in good order.
 - 2. Do not use record documents for construction purposes.
 - 3. Maintain at the site for the Owner one copy of all record documents.
- D. Make documents and samples available at all times for inspection by Engineer.

Record Documents

- E. Failure to maintain the Record Documents in a satisfactory manner may be cause for withholding of a certificate for payment.

1.3 Quality Assurance

- A. Unless noted otherwise, Record Drawings shall provide dimensions, distances and coordinates to the nearest 0.1 foot.
- B. Unless noted otherwise, Record Drawings shall provide elevations to the nearest 0.01 foot for all pertinent items constructed by the Contractor.

1.4 Recording

- A. Label each document "Project Record" in neat, large printed letters.
- B. Recording
 - 1. Record information concurrently with construction progress.
 - 2. Do not conceal any work until required information is recorded.

1.5 Record Drawings

- A. Record Drawings shall be reproducible, shall have a title block indicating that the drawings are Record Drawings, the name of the company preparing the Record Drawings, and the date the Record Drawings were prepared.
- B. Legibly mark drawings to record actual construction, including:
 - 1. All Construction
 - a. Changes of dimension and detail.
 - b. Changes made by Requests for Information (RFI), field order, clarification memorandums or by change order.
 - c. Details not on original Drawings.
 - 2. Site Improvements, Including Underground Utilities
 - a. Horizontal and vertical locations of all exposed and underground utilities and appurtenances, both new facilities constructed and those utilities encountered, referenced to permanent surface improvements.
 - b. Location of and dimensions of roadways and parking areas, providing dimensions to back of curb when present.

- c. The locations shall be referenced to at least two easily identifiable, permanent landmarks (e.g., power poles, valve markers, etc.) or benchmarks.
3. Structures
 - a. Depths of various elements of foundation in relation to finish first floor datum or top of wall.
 - b. Location of internal and buried utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.

1.6 Specifications

- A. Legibly mark each section to record:
 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 2. Changes made by Requests for Information (RFI), field order, clarification memorandums, or by change order.

1.7 Submittal

- A. At contract closeout, deliver Record Documents to the Engineer for the Owner.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
 1. Date
 2. Project title and number
 3. Contractor's name and address
 4. Title and number of each record document
 5. Signature of Contractor or Contractor's authorized representative

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

Part 1 General

1.1 Work Included

- A. Provide labor, materials, equipment and incidentals necessary to perform operations in connection with clearing, grubbing, and disposal of cleared and grubbed materials.

1.2 Definitions

- A. Interfering or Objectionable Material: Trash, rubbish, and junk; vegetation and other organic matter, whether alive, dead, or decaying; topsoil.
- B. Clearing: Removal of interfering or objectionable material lying on or protruding above ground surface.
- C. Grubbing: Removal of vegetation and other organic matter including stumps, buried logs, and roots greater than 2 inches caliper to a depth of 6 inches below subgrade.
- D. Scalping: Removal of sod without removing more than upper 3 inches of topsoil.
- E. Stripping: Removal of topsoil remaining after applicable scalping is completed.
- F. Project Limits: Areas, as shown or specified, within which Work is to be performed.

1.3 Submittals

- A. Submit work plan in accordance with Section 01 33 00.
- B. The limits of clearing, grubbing and stripping are defined in Section 3.3 and detailed on the project plans.

1.4 Quality Assurance

- A. Obtain Owner's approval of staked clearing, grubbing, and stripping limits, prior to commencing clearing, grubbing, and stripping.

1.5 Scheduling and Sequencing

- A. Prepare site only after adequate erosion and sediment controls are in place. Limit areas exposed uncontrolled to erosion during installation of temporary erosion and sediment controls.

Part 2 Products

(NOT USED)

Part 3 Execution

3.1 General

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Clear, grub, and strip areas actually needed for staging area or site improvements within limits shown or specified. Do not injure or deface vegetation that is not designated for removal.

3.2 Preparation

- A. Mark areas to be cleared and grubbed prior to commencing clearing operations. The Owner shall approve clearing and grubbing limits prior to commencement of clearing operations.
- B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place. Excavate for, and remove, underground utilities indicated to be removed.
 - 1. Arrange with utility owners to shut-off indicated utilities.
- C. Trees and shrubs outside of the clearing limits, which are within 10' of the clearing limits, shall be clearly marked to avoid damage during clearing and grubbing operations.
- D. Remove trees and brush outside the clearing limits, but within the immediate vicinity of the work, upon receipt of approval by the Owner, when the trees or brush interfere with the progress of construction operations.
- E. Clearly mark trees and shrubs within the clearing limits, which are to remain, and protect the trees and shrubs from damage during the clearing and grubbing operations.
- F. The clearing limits shall not extend beyond the project limits.

3.3 Limits

- A. As follows, but not to extend beyond Project limits.
 - 1. Excavation Including Trenches: 5 feet beyond top of cut slopes.
 - 2. Fill:
 - a. Clearing and Grubbing: 5 feet beyond toe of permanent fill.
 - b. Stripping and Scalping: 5 feet beyond toe of permanent fill.

3. Staging Area:
 - a. Clearing: 5 feet beyond perimeter.
 - b. Scalping and Stripping: As shown.
 - c. Grubbing: Around perimeter as necessary for neat finished appearance.
4. Other Areas: As shown.

- B. Remove rubbish, trash, and junk from entire area within project limits.

3.4 Clearing

- A. Clear areas within limits of construction.
- B. Fell trees so that they fall away from facilities and vegetation not designated for removal.
- C. Cut stumps not designated for grubbing flush with ground surface.
- D. Cut off shrubs, brush, weeds, and grasses to within 2 inches of ground surface.

3.5 Site Improvements

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
 2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.6 Grubbing

- A. Grub areas within limits of construction.

3.7 Scalping

- A. Do not remove sod until after clearing and grubbing is completed and resulting debris is removed.
- B. Scalp areas within limits shown or specified.

3.8 Stripping

- A. Do not remove topsoil until after scalping is completed.
- B. Strip areas within limits to minimum depths shown or specified. Do not remove subsoil with topsoil.
- C. Stockpile strippings, meeting requirements of Section 31 20 00 – Earth Moving for topsoil, separately from other excavated material.

3.9 Tree Removal Outside Clearing Limits

- A. Remove Trees Within Project Limits:
 - 1. Dead, dying, leaning, or otherwise unsound trees that may strike and damage Project facilities in falling.
 - 2. Trees designated by Owner for removal.
- B. Remove stumps and debris, and if disturbed, restore surrounding area to its original condition.

3.10 Pruning

- A. Remove branches below the following heights: 20 feet above proposed ground level.
- B. Prune as indicated in local ordinances and the tree protection plans.

3.11 Salvage

- A. Saleable logs timber may be sold to Contractor's benefit. Promptly remove from Project site.
- B. Sod with commercial value may be sold to Contractor's benefit. Promptly remove from Project site.

3.12 Disposal

- A. Clearing and Grubbing Debris:
 - 1. Dispose of debris offsite.
 - 2. Burning of debris onsite will not be allowed.
 - 3. Woody debris may be chipped. Chips may be sold to Contractor's benefit or used for landscaping onsite as mulch or uniformly mixed with topsoil, provided that resulting mix will be fertile and not support combustion. Maximum dimensions of chipped material used onsite shall be 1/4-inch by 2 inch. Dispose of chips that are unsaleable or unsuitable for landscaping or other uses with unchipped debris.

4. Limit offsite disposal of clearing and grubbing debris to locations that are approved by federal, state, and local authorities, and that will not be visible from Project.
- B. Scalpings: As specified for clearing and grubbing debris.
- C. Strippings:
1. Dispose of strippings that are unsuitable for topsoil or that exceed quantity required for topsoil offsite.
 2. Stockpile topsoil in sufficient quantity to meet Project needs. Dispose of excess strippings as specified for clearing and grubbing.
- D. Completely remove timber, logs, roots, brush, rotten wood, and other refuse from the Owner's property. Disposal of materials in streams shall not be permitted and no materials shall be piled in stream channels or in areas where it might be washed away by floods. Timber within the area to be cleared shall become the property of the Contractor, and the Contractor may cut, trim, hew, saw, or otherwise dress felled timber within the limits of the Owner's property, provided timber and waste material is disposed of in a satisfactory manner. Materials shall be removed from the site daily, unless permission is granted by the Owner to store the materials for longer periods.

END OF SECTION

Part 1 General

1.1 Section Includes

- A. Clearing and grubbing.
- B. Excavation and disposal of all wet and dry materials (including rock) encountered that must be removed for construction purposes.
- C. Sheeting, shoring, bracing, and timbering.
- D. Dewatering of trenches and other excavations.
- E. Pipe bedding.
- F. Backfilling and tamping of trenches, foundations, and other structures.

1.2 Definitions

- A. Degree of Compaction: Degree of compaction is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D698, for general soil types, abbreviated as percent laboratory maximum density.
- B. Hard Materials: Weathered rock, dense consolidated deposits, or conglomerate materials which are not included in the definition of "rock" but which usually require the use of heavy excavation equipment, ripper teeth, or jack hammers for removal.
- C. Rock: Solid homogeneous interlocking crystalline material with firmly cemented, laminated, or foliated masses or conglomerate deposits, neither of which can be removed without systematic drilling and blasting, drilling and the use of expansion jacks or feather wedges, or the use of backhoe-mounted pneumatic hole punches or rock breakers; also large boulders, buried masonry, or concrete other than pavement.

1.3 Submittals

- A. The following shall be submitted in accordance with Section 01 33 00 - Submittal Procedures:
- B. Test Reports – Submit copies of all laboratory and field test reports within 24 hours of the completion of the test.
 - 1. Borrow Site Testing: Fill and backfill test.
 - 2. Select material test.
 - 3. Porous fill test for capillary water barrier.

Trenching and Backfilling

4. Density tests.
5. Moisture Content Tests.

1.4 Delivery, Storage, and Handling

- A. Perform in a manner to prevent contamination or segregation of materials.

1.5 Requirements for Off Site Soil

- A. Soils brought in from off site for use as backfill shall be tested for petroleum hydrocarbons, BTEX, PCBs and HW characteristics (including toxicity, ignitability, corrosivity, and reactivity). Backfill shall not contain concentrations of these analytes above the appropriate State and/or EPA criteria, and shall pass the tests for HW characteristics. Determine petroleum hydrocarbon concentrations by using appropriate State protocols. Determine BTEX concentrations by using EPA SW-846.3-3 Method 5035/8260B. Perform complete TCLP in accordance with EPA SW-846.3-3 Method 1311. Perform HW characteristic tests for ignitability, corrosivity, and reactivity in accordance with accepted standard methods. Perform PCB testing in accordance with accepted standard methods for sampling and analysis of bulk solid samples. Provide borrow site testing for petroleum hydrocarbons and BTEX from a grab sample of material from the area most likely to be contaminated at the borrow site (as indicated by visual or olfactory evidence), with at least one test from each borrow site. For each borrow site, provide borrow site testing for HW characteristics from a composite sample of material, collected in accordance with standard soil sampling techniques. Do not bring material onsite until tests results have been received and approved by the Owner.

1.6 Field Measurements

- A. Verify that survey bench mark and intended elevations for the Work are as shown on the drawings.

1.7 Coordination

- A. Verify work associated with lower elevation utilities is complete before placing higher elevation utilities.

1.8 Quality Assurance

- A. Shoring and Sheet piling Plan: Submit drawings and calculations, certified by a registered professional engineer, describing the methods for shoring and sheet piling of excavations. Drawings shall include material sizes and types, arrangement of members, and the sequence and method of installation and removal. Calculations shall include data and references used.
- B. Utilities: Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Perform work adjacent to non-Owner utilities as indicated in accordance with procedures outlined by utility company. Excavation made with power-driven equipment is not permitted within two

feet of known utility or subsurface construction. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the contract excavation until approval for backfill is granted by the Engineer. Report damage to utility lines or subsurface construction immediately to the Engineer.

Part 2 Products

2.1 Soil Materials

- A. Satisfactory Materials: Any materials classified by ASTM D2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, GM-GC, SW, or SP, free of debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, and frozen, deleterious, or objectionable materials. Unless specified otherwise, the maximum particle diameter shall be one-half the lift thickness at the intended location.
- B. Unsatisfactory Materials: Materials which do not comply with the requirements for satisfactory materials. Unsatisfactory materials also include man-made fills, trash, refuse, or backfills from previous construction. Unsatisfactory material also includes material classified as satisfactory which contains root and other organic matter, frozen material, and stones larger than 3 inches. The Engineer shall be notified of any contaminated materials.
- C. Backfill and Fill Material: Provide ASTM D2321 materials as listed in Tables 1, 2, and 3.
- D. Topsoil: Provide as specified in Section 32 92 19 - Seeding.

2.2 Utility Bedding Material

- A. Provide ASTM D2321 materials as listed in Tables 1, 2, and 3.

2.3 Borrow

- A. Obtain borrow materials required in excess of those furnished from excavations from sources outside of Owner's property.

2.4 Buried Warning and Identification Tape

- A. Warning Tape for Non-metallic Piping: Metallic core or metallic-faced, acid- and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, 3 inch minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.

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Warning Tape Color Codes	
Green:	Sewer Systems
Purple:	Reclaimed Water

- B. Warning Tape for Metallic Piping: Acid and alkali-resistant polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of tape shall be 0.003 inch. Tape shall have a minimum strength of 1500 psi lengthwise, and 1250 psi crosswise, with a maximum 350 percent elongation.
- A. Tracer Wire for Non-Metallic Piping: Tracer wire shall be a #12 AWG (minimum) copper conductor, insulated with a minimum 30 mil, high-density, high molecular weight polyethylene (HDPE) insulation, and rated for direct burial use. HDPE insulation shall be RoHS compliant and utilize virgin grade material.

Part 3 Execution

3.1 Protection

- A. Shoring and Sheeting
1. Take special care to avoid damage wherever excavation is being done. Sufficiently sheet, shore, and brace the sides of all excavations to prevent slides, cave-ins, settlement, or movement of the banks and to maintain the specified trench widths. Use solid sheets in wet, saturated, or flowing ground. All sheeting, shoring, and bracing shall have enough strength and rigidity to withstand the pressures exerted, to keep the walls of the excavation properly in place, and to protect all persons and property from injury or damage. Separate payment will not be made for sheeting, shoring, and bracing, which are considered an incidental part of the excavation work.
 2. Wherever employees may be exposed to moving ground or cave-ins, shore and lay back exposed earth excavation surfaces more than 5 feet high to a stable slope, or else provide some equivalent means of protection. Effectively protect trenches less than 5 feet deep when examination of the ground indicates hazardous ground movement may be expected. Guard the walls and faces of all excavations in which employees are exposed to danger from moving ground by a shoring system, sloping of the ground, or some equivalent protection.
 3. Trench excavation safety protection shall be accomplished as required by the most recent provisions of Part 1926, Subpart P - Excavations, Trenching, and Shoring of the Occupational Safety and Health Administration (OSHA) Standards and Interpretations, as may be amended. Comply with all OSHA standards in determining where and in what manner sheeting, shoring, and bracing are to be done. The sheeting, shoring, and bracing system shall be designed by a professional engineer licensed in the State of Tennessee and shall be subject to approval by the Engineer. However, such approval does not relieve the Contractor of the sole responsibility for the safety of all employees,

the effectiveness of the system, and any damages or injuries resulting from the lack or inadequacy of sheeting, shoring, and bracing.

4. Where excavations are made adjacent to existing buildings or structures or in paved streets or alleys, take particular care to sheet, shore, and brace the sides of the excavation so as to prevent any undermining of or settlement beneath such structures or pavement. Underpin adjacent structures wherever necessary, with the approval of the Engineer.
5. Do not leave sheeting, shoring, or bracing materials in place unless this is called for by the Drawings, ordered by the Engineer, or deemed necessary or advisable for the safety or protection of the new or existing work or features. Remove these materials in such a manner that the new structure or any existing structures or property, whether public or private, will not be endangered or damaged and that cave-ins and slides are avoided.
6. Fill and compact all holes and voids left in the work by the removal of sheeting, shoring, or bracing as specified herein.
7. The Contractor may use a trench box, which is a prefabricated movable trench shield composed of steel plates welded to a heavy steel frame. The trench box shall be designed to provide protection equal to or greater than that of an appropriate shoring system.
8. A "Qualified Person", as defined by OSHA regulations, shall be on-site at all times during activities requiring trench safety provisions.

B. Drainage and Dewatering

1. Provide for the collection and disposal of surface and subsurface water encountered during construction.
2. Drainage: So that construction operations progress successfully, completely drain construction site during periods of construction to keep soil materials sufficiently dry. Where applicable, the Contractor shall establish/construct storm drainage features (ponds/basins) at the earliest stages of site development and throughout construction grade the construction area to provide positive surface water runoff away from the construction activity and/or provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide new soil material as specified herein. It is the responsibility of the Contractor to assess the soil and ground water conditions presented by the plans and specifications and to employ necessary measures to permit construction to proceed. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing. Excavation shall be performed so that the site, the area immediately surrounding the site, and the area affecting operations at the site shall be continually and effectively drained.

3. Dewatering:

- a. Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 3 feet of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open, the water level shall be maintained continuously, at least 2 feet below the working level.

C. Underground Utilities

1. Location of the existing utilities indicated is approximate. The Contractor shall physically verify the location and elevation of all existing utilities prior to starting construction. The Contractor shall contact the State One-Call Service affected utilities for assistance in locating existing utilities.

- D. Machinery and Equipment: Movement of construction machinery and equipment over pipes during construction shall be at the Contractor's risk. Repair, or remove and provide new pipe for existing or newly installed pipe that has been displaced or damaged.

3.2 Surface Preparation

- A. Clear and grub project area in accordance with Section 31 11 00 - Clearing and Grubbing.
- B. Identify required lines, levels, contours, and datum.
- C. Protect plant life, lawns, and other features remaining as part of final landscaping.
- D. Maintain and protect above and below grade utilities which are to remain.

3.3 Excavation

- A. Excavate to contours, elevation, and dimensions indicated. Reuse excavated materials that meet the specified requirements for the material type required at the intended location. Keep excavations free from water. Excavate soil disturbed or weakened by Contractor's operations, soils softened or made unsuitable for subsequent construction due to exposure to weather. Excavations below indicated depths will not be permitted except to remove unsatisfactory material.
- B. Wherever muck, quicksand, soft clay, swampy ground, or other material unsuitable for foundations, subgrade, or backfilling is encountered, remove it and continue excavation until suitable material is encountered. The material removed shall be disposed of in the manner described below. Then refill the areas excavated for this reason with 1 inch to 2 inch sized crushed stone up to the level of the lines, grades,

and/or cross sections shown on the Drawings. The top 6 inches of this refill shall be No. 67 (TDOT) ASTM D2321 Class I crushed stone for bedding

- C. Unless specified otherwise, refill excavations cut below indicated depth with bedding material and compact to 95 percent of ASTM D698 maximum density. Satisfactory material removed below the depths indicated, without specific direction of the Engineer, shall be replaced with satisfactory materials to the indicated excavation grade. Determination of elevations and measurements of approved overdepth excavation of unsatisfactory material below grades indicated shall be done under the direction of the Engineer.
- D. Pipe Trenches:
1. Unless the construction of lines by tunneling, jacking, or boring is called for by the Drawings or specifically authorized by the Engineer, make excavation for pipelines in open cut and true to the lines and grades shown on the Drawings or established by the Engineer on the ground. Cut the banks of trenches between vertical parallel planes equidistant from the pipe centerline. The horizontal distance between the vertical planes (or, if sheeting is used, between the inside faces of that sheeting) shall vary with the size of the pipe to be installed, but shall not be more than the distance determined by the following formula: $4/3d + 15$ inches, where "d" represents the internal diameter of the pipe in inches. When approved in writing by the Engineer, the banks of trenches from the ground surface down to a depth not closer than 1 foot above the top of the pipe may be excavated to nonvertical and nonparallel planes, provided the excavation below that depth is made with vertical and parallel sides equidistant from the pipe centerline in accordance with the formula given above. Any cut made in excess of the formula $4/3d + 15$ inches shall be at the expense of the Contractor and may be cause for the Engineer to require that stronger pipe and/or a higher class of bedding be used at no cost to the Owner.
 2. Grade bottom of trenches to provide uniform support for each section of pipe after pipe bedding placement. Tamp if necessary to provide a firm pipe bed. Recesses shall be excavated to accommodate bells and joints so that pipe will be uniformly supported for the entire length. Rock, where encountered, shall be excavated to a depth of at least 6 inches below the bottom of the pipe.
 3. Excavate bell holes for bell and spigot pipe at proper intervals so that the barrel of the pipe will rest for its entire length upon the bottom of the trench. Bell holes shall be large enough to permit proper jointing of the pipe. Do not excavate bell holes more than 2 joints ahead of pipe laying.
 4. Provide minimum depths of "Bedding Material" as defined in Tables 1, 2, and 3.
 5. Do not excavate pipe trenches more than 200 feet ahead of the pipe laying and perform all work so as to cause the least possible inconvenience to the public. Construct temporary bridges or crossings when and where the Engineer deems necessary to maintain vehicular or pedestrian traffic.

Trenching and Backfilling

6. In all cases where materials are deposited along open trenches, place them so that in the event of rain no damage will result to the work and/or to adjacent property.
- E. Hard Material and Rock
1. Any material that is encountered within the limits of the required excavation that cannot be removed except by drilling and/or blasting, including rock, boulders, masonry, hard pan, chert, shale, street and sidewalk pavements, and/or similar materials, shall be considered as unclassified excavation, and no separate payment will be made therefor.
 2. Should rock be encountered in the excavation, remove it by blasting or other methods. Where blasts are made, cover the excavation with enough excavation material and/or timber or steel matting to prevent danger to life and property. The Contractor shall secure, at his own expense, all permits required by law for blasting operations and the additional hazard insurance required. Observe all applicable laws and ordinances pertaining to blasting operations.
 3. Excavate rock over the horizontal limits of excavation and to a depth of not less than 6 inches below the bottom of pipe up to 30 inches in diameter and not less than 12 inches below the bottom of larger pipes if rock extends to such depth. Then backfill the space below grade with No. 67 (TDOT) ASTM D2321 Class I crushed stone or other approved material, tamp to the proper grade, and make ready for construction.
- F. Excavated Materials
1. Satisfactory excavated material required for fill or backfill shall be placed in the proper section of the permanent work required or shall be separately stockpiled if it cannot be readily placed. Satisfactory material in excess of that required for the permanent work and all unsatisfactory material shall be disposed of as specified in Paragraph "DISPOSITION OF SURPLUS MATERIAL."

3.4 Filling and Backfilling

- A. Fill and backfill to contours, elevations, and dimensions indicated. Compact each lift before placing overlaying lift.
- B. Backfill and Fill Material Placement For Utilities
1. Begin backfilling after the line construction is completed and then inspected and approved by the Engineer. Place this backfill simultaneously on either side of the pipe in even layers that before compaction are no more than 6 inches deep. Thoroughly and completely tamp each layer into place before placing additional layers.
- C. At locations of improvements subject to damage by displacement, tamp and thoroughly compact the backfill in layers that, before compaction, are 6 inches deep. In other areas, the backfill for the upper portion of the trenches may be placed without tamping but shall be compacted to a density equivalent to that of adjacent earth

material as determined by laboratory tests. Use special care to prevent the operation of backfilling equipment from causing any damage to the pipe.

- D. If earth material for backfill is, in the opinion of the Engineer, too dry to allow thorough compaction, then add enough water so that the backfill can be properly compacted. Do not place earth material that the Engineer considers too wet or otherwise unsuitable.
- E. Wherever excavation has been made within easements across private property, the top 1 foot of backfill material shall consist of topsoil, as defined in Section 32 92 19 - Seeding.
- F. Wherever trenches have been cut across or along existing pavement and driveways, including gravel or dirt drives, temporarily pave the backfill of such trenches by placing TDOT Class A, Grade D ASTM D2321 Class I crushed stone as the top 12 inches of the backfill. Maintain this temporary pavement either until the permanent pavement is restored or until the project is accepted by the Owner.
- G. Conduct backfilling around manholes, inlets, outfalls, and/or structures in the same manner as specified above for pipelines except that even greater care is necessary to prevent damage to the utility structure.
- H. Do not use power operated tampers to tamp that portion of the backfill around the pipe within 1 foot above the pipe.
- I. Perform backfilling so as not to disturb or injure any pipe and/or structure against which the backfill is being placed. If any pipe or structure is damaged and/or displaced during backfilling, open up the backfill and make whatever repairs are necessary, whenever directed to do so by the Engineer.
- J. Backfilling and clean-up operations shall closely follow pipe laying; failure to comply with this provision will result in the Engineer's requiring that the Contractor's other activities be suspended until backfilling and clean-up operations catch up with pipe laying.
- K. Compaction Requirements: Under buildings and 2 times the depth of pipe beyond, and under roads and 2 times the depth beyond the shoulder, compact to 95 percent maximum density in accordance with ASTM D698. In all other locations, compact to 90 percent maximum density.

3.5 Borrow

- A. Whenever the backfill of excavated areas or the placement of embankments requires more material than is available from authorized excavations, or whenever the backfill material from such excavations is unsuitable, then obtain additional material from other sources. This may require the opening of borrow pits at points accessible to the work. In such cases, make suitable arrangements with the property owner and pay all incidental costs, including any royalties, for the use of the borrowed material. Before a borrow pit is opened, the quality and suitability of its material shall be approved by the Engineer.

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- B. Excavate borrow pits in such a way that the remaining surfaces and slopes are reasonably smooth and that adequate drainage is provided over the entire area. Construct drainage ditches wherever necessary to provide outlets for water to the nearest natural channel, thus preventing the formation of pools in the pit area. Leave the sides of borrow pit cuts at a maximum slope of 2:1 unless otherwise directed by the Engineer.
- C. Properly clear and grub borrow pits, and remove all objectionable matter from the borrow pit material before placing it in the backfill.
- D. The taking of materials from borrow pits for use in the construction of backfill, fills, or embankments shall be considered an incidental part of the work; no separate payment shall be made for this.

3.6 Finish Operations

- A. Grading: Finish grades as indicated within one-tenth of one foot. Grade areas to drain water away from structures. Maintain areas free of trash and debris. For existing grades that will remain but which were disturbed by Contractor's operations, grade as directed.
- B. Protection of Surfaces: Protect newly backfilled, graded, and topsoiled areas from traffic, erosion, and settlements that may occur. Repair or reestablish damaged grades, elevations, or slopes.

3.7 Disposition of Surplus Material

- A. Whenever practicable, all materials removed by excavation that are suitable for backfilling pipe trenches or for other purposes shown on the Drawings or directed by the Engineer shall be used for these purposes. Any materials not so used shall be considered waste materials and disposed of by the Contractor as specified below.
- B. Once any part of the work is completed, properly dispose of all surplus or unused materials (including waste materials) left within the construction limits of that work. The Contractor shall dispose of these surplus and waste materials off-site in an appropriate manner in conformity with pertinent codes and ordinances. Leave the surface of the work in a neat and workmanlike condition, as described below.
- C. The disposal of waste materials shall be considered an integral part of the excavation work and one for which no separate payment shall be allowed.

3.8 Field Quality Control

- A. Sampling: Take the number and size of samples required to perform the following tests.
- B. Testing: Perform one of each of the following tests for each material used. Provide additional tests for each source change.
 - 1. Bedding Material and Fill and Backfill Material Testing: Test fill and backfill material in accordance with ASTM C136 for conformance to ASTM D2487

gradation limits; ASTM D1140 for material finer than the No. 200 sieve; ASTM D4318 for liquid limit and for plastic limit; ASTM D698 or ASTM D1557 for moisture density relations, as applicable.

2. Density Tests: Test density in accordance with ASTM D1556, or ASTM D6938. When ASTM D6938 density tests are used, verify density test results by performing an ASTM D1556 density test at a location already ASTM D6938 tested as specified herein. Perform an ASTM D1556 density test at the start of the job, and for every 10 ASTM D6938 density tests thereafter. Test each lift at randomly selected locations with one test per 400 linear feet in each lift.

Table 1: Backfilling and Compaction of Trenches for Pressure Pipes in Unimproved Areas

Layer*	Depth			Material**			
	≤15"Ø	18"-38"Ø	>38"Ø	DIP	PVC	HDPE	Conc
A	4" min	6" min	12" min	I B	II	II	I B
B1	½ OD			III	II	II	III
B2	½ OD			III	II	II	III
C	6"			III	II	II	III
D	6"			IV A	II	II	IV A
E	Varies			IV A	IV A	IV A	IV A
F	12"			As specified in Section 32 92 19			

*See Figure 1.

**Bedding material to be used in wet conditions for all layers.

Table 2: Backfilling and Compaction of Trenches for Gravity Lines in Unimproved Areas

Layer*	Depth			Material**			
	≤15"Ø	18"-38"Ø	>38"Ø	DIP	PVC	HDPE	Conc
A	4" min	6" min	12" min	I B	II	II	I B
B1	½ OD			I B	II	II	I B
B2	½ OD			III	II	II	III
C	6"			III	II	II	III
D	6"			IV A	II	II	IV A
E	Varies			IV A	IV A	IV A	IV A
F	12"			As specified in Section 32 92 19			

*See Figure 1.

**Bedding material to be used in wet conditions for all layers.

Table 3: Backfilling and Compaction of Trenches in Paved Areas

Layer*	Depth			Material			
	≤15"Ø	18"-38"Ø	>38"Ø	DIP	PVC	HDPE	Conc
A	4" min	6" min	12" min	I B	II	II	I B
B1	½ OD			I B	II	II	I B
B2	½ OD			I B	II	II	I B
C	6"			I B	II	II	I B
D	6"			I B	II	II	I B
E	Varies			I B	II	II	I B
F	12"			As required for pavement base			

*See Figure 1.

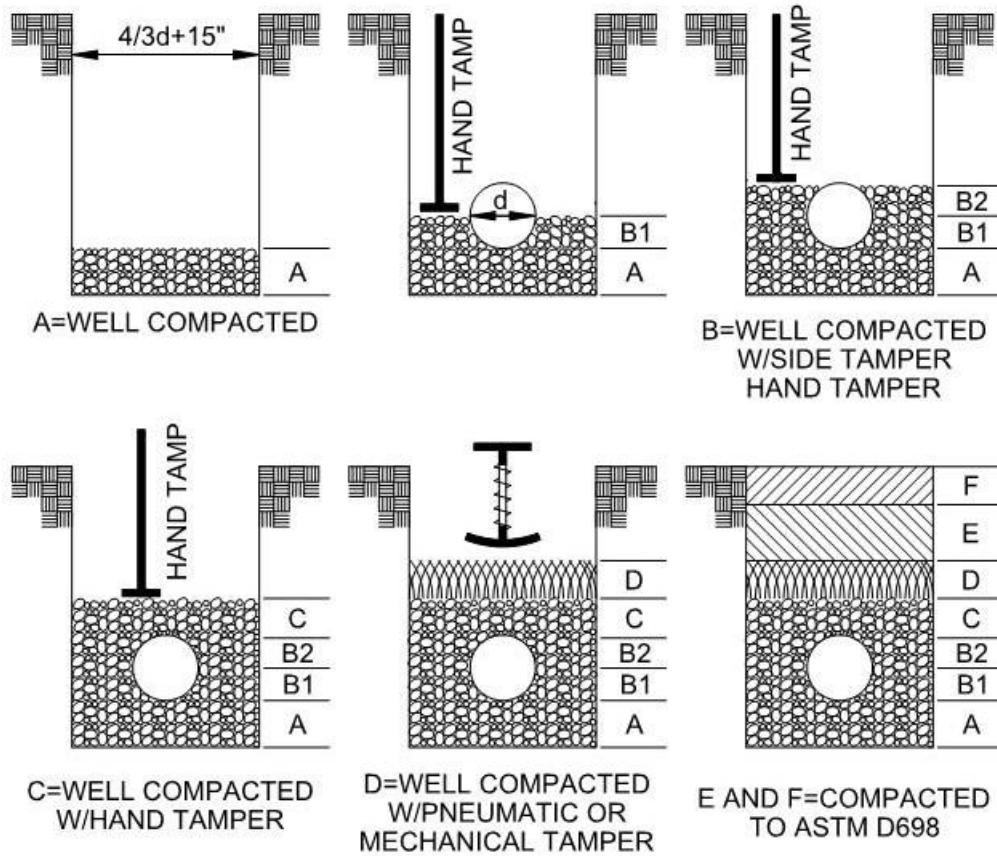


Figure 1: Backfilling and Compaction of Trenches

END OF SECTION

Part 1 General

1.1 Section Includes

- A. Seeding of disturbed areas.
- B. Fertilizing and soil amendments, as necessary.
- C. Maintenance.

1.2 References

- A. U.S. Department of Agriculture (USDA)
 - 1. AMS Seed Act - Federal Seed Act.
 - 2. DOA SSIR 42 - Soil Survey Investigation Report No. 42, Soil Survey Laboratory Methods Manual, Version 3.0.

1.3 Definitions

- A. Acceptable Stand of **Turf**: An area is considered acceptable if it is represented by a minimum of 100 seedlings per square foot of the permanent species of grass representative of the seed mixture.

1.4 Submittals

- A. The following shall be submitted in accordance with Section 01 33 00 - Submittal Procedures:
 - 1. Product Data:
 - a. Wood cellulose fiber mulch.
 - b. Fertilizer: Include physical characteristics, and recommendations.
 - 2. Certificates:
 - a. Contractor shall furnish labels or certified laboratory reports from an accredited commercial seed laboratory or a state seed laboratory showing the analysis and germination of the seed to be furnished. Acceptance of the seed test reports shall not relieve the Contractor of any responsibility or liability for furnishing seed meeting the requirements of this section.
 - 3. Test Results:

Seeding

- a. The Contractor shall obtain representative samples and furnish soil test certificates including textural, pH, and organic ignition analysis from the State University Agricultural Extension Service or other certified testing laboratory.

1.5 System Description

- A. This work shall be performed in all disturbed areas not receiving such site improvements as buildings, roads, walks, sod, planting, etc., and shall include, but not necessarily be limited to, all seed bed preparation; the supplying and placing of soil additives, seed, and mulch wherever required by the Drawings or directed by the A/E; and maintenance.
- B. All existing lawns encountered shall be replaced with topsoil and seeding of the same type and quality as that existing prior to construction and shall be restored to original condition or better.
- C. Unless otherwise approved in writing by the A/E, seeding operations shall be limited to the following planting periods:
 1. Spring - March 1 through May 30.
 2. Fall - August 15 through October 31.
- D. Seeding Requirements Table:

Area	Species	Seed Rate	Fertilizer	Limestone
Flat to Rolling Terrain with Slopes Less than 3:1	Kentucky Fescue 31	5 lbs/1000 SF	15 lbs/1000 SF	40 lbs/1000 SF

1. When seeding during March 1 through April 1 and October 1 through November 20, add an additional 3 pounds per 1,000 square feet of annual rye grass.
- E. Refer to other sections for items affecting seeding. Coordinate this work with that specified by other sections for timely execution.

1.6 Delivery, Storage, and Handling

- A. Delivery
 1. Seed Protection: Protect from drying out and from contamination during delivery, on-site storage, and handling.
 2. Fertilizer and Other Agricultural Chemicals Delivery: Deliver to the site in original, unopened containers bearing manufacturer's chemical analysis, name, trade name, trademark, and indication of conformance to state and federal laws. Instead of containers, fertilizer, gypsum, Sulphur, iron, and lime may be furnished in bulk with certificate indicating the above information.

- B. Storage
 - 1. Seed, Fertilizer, Gypsum, Sulfur, Iron, and Lime Storage: Store in cool, dry locations away from contaminants.
 - 2. Topsoil: Prior to stockpiling topsoil, treat growing vegetation with application of appropriate specified non-selective herbicide. Clear and grub existing vegetation three to four weeks prior to stockpiling topsoil.
- C. Handling: Do not drop or dump materials from vehicles.

Part 2 Products

2.1 Topsoil

- A. On-Site Topsoil: Surface soil stripped and stockpiled on site and modified as necessary to meet the requirements specified for topsoil in paragraph entitled "Composition." When available, topsoil shall be existing surface soil stripped and stockpiled on-site in accordance with these specifications.
- B. Off-Site Topsoil: Conform to requirements specified in paragraph entitled "Composition." Additional topsoil shall be furnished by the Contractor.
- C. Composition: Containing from 5 to 20 percent organic matter as determined by the topsoil composition tests of the Organic Carbon, 6A, Chemical Analysis Method described in DOA SSIR 42. Maximum particle size, 3/4 inch, with maximum 3 percent retained on 1/4 inch screen. The pH shall be tested in accordance with ASTM D4972. Topsoil shall be free of sticks, stones, roots, and other debris and objectionable materials. Other components shall conform to the following limits:

Silt	25-50 percent.
Clay	10-30 percent.
Sand	20-35 percent.
pH	5.5 to 7.0.
Soluble Salts	600 ppm maximum.

2.2 Grass Seed

- A. Seed shall be delivered in new bags or bags that are sound and labeled in accordance with the U.S. Department of Agriculture Federal Seed Act.
- B. All seed shall be from the last crop available at time of purchase and shall not be moldy, wet, or otherwise damaged in transit or storage.
- C. Seed shall bear the growers analysis testing to 98% for purity and 90% for germination. At the discretion of the Engineer, samples of seed may be taken for check against the grower's analysis.
- D. Species, rate of seeding, fertilization, and other requirements are shown in the Seeding Requirements Table.

2.3 Fertilizer Materials

- A. Fertilizer materials shall comply with applicable state, local, and federal laws concerned with their production and use.
- B. Commercial fertilizer shall be a ready mixed material and shall be equivalent to the grade or grades specified in the Seeding Requirements Table. Container bags shall have the name and address of the manufacturer, the brand name, net weight, and chemical composition.

2.4 Agricultural Limestone

- A. Containing a minimum of 85 percent calcium carbonate and magnesium carbonate combined, 85 percent of which passes a No. 10 mesh sieve, and 40 percent passing a No. 40 mesh sieve.

2.5 Mulch

- A. Mulch shall be free from noxious weeds, mold, and other deleterious materials.
- B. Straw: Stalks from oats, wheat, rye, barley, or rice. Furnish in air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Straw shall contain no fertile seed.

2.6 Mulch Binder

- A. Mulch on slopes exceeding 3 to 1 ratio shall be held in place by the use of an approved mulch binder. The mulch binder shall be non-toxic to plant life and shall be acceptable to the Engineer.
- B. Emulsified asphalt binder shall be Grade SS-1, ASTM D 977. Cut-back asphalt binder shall be Grade RC 70 or RC 250.

2.7 Inoculants for Legumes

- A. All leguminous seed shall be inoculated prior to seeding with a standard culture of nitrogen-fixing bacteria that is adapted to the particular seed involved.

2.8 Water

- A. Water shall be clean, clear water free from any objectionable or harmful chemical qualities or organisms and shall be furnished by the Contractor.

Part 3 Execution

3.1 Preparation

- A. Extent Of Work: Provide soil preparation (including soil conditioners as required), fertilizing, seeding, and surface topdressing of all newly graded finished earth

surfaces, unless indicated otherwise, and at all areas inside or outside the limits of construction that are disturbed by the Contractor's operations.

- B. Topsoil: Provide 4 inches of existing soil to meet indicated finish grade. Over rock, provide minimum of 12 inches of topsoil. After areas have been brought to indicated finish grade, incorporate fertilizer, pH adjusters, and soil conditioners into soil a minimum depth of 4 inches by disking, harrowing, tilling or other method approved by the Engineer. Remove debris and stones larger than 3/4 inch in any dimension remaining on the surface after finish grading. Correct irregularities in finish surfaces to eliminate depressions. Protect finished topsoil areas from damage by vehicular or pedestrian traffic.
- C. Before beginning seeding operations in any area, complete the placing of topsoil and final grading, and have the work approved by the Owner's Representative.

3.2 Seeding

- A. Seed Application and Conditions
 1. Immediately before seeding, restore soil to proper grade.
 2. Do not seed when ground is muddy frozen or snow covered or in an unsatisfactory condition for seeding.
 3. Apply seed within twenty-four hours after seedbed preparation.
 4. Sow seed by approved sowing equipment. Sow one-half the seed in one direction, and sow remainder at right angles to the first sowing.
- B. Seed of the specified group shall be sown as soon as preparation of the seedbed has been completed. No seed shall be sown during high winds, nor until the surface is suitable for working and is in a proper condition. Seeding shall be performed during the dates shown in the Seeding Requirements Table unless otherwise approved by the Engineer. Seed mixtures may be sown together provided they are kept in a thoroughly mixed condition during the seeding operation. Copies of all weight tickets shall be furnished to the Engineer.
- C. Seeds shall be uniformly sown by any approved mechanical method to suit the slope and size of the areas to be seeded, preferably with a broadcast type seeder, windmill hand seeder, or approved mechanical power drawn seed drills. Hydro-seeding and hydro-mulching may be used on steep embankments, provided full coverage is obtained. Care shall be taken to adjust the seeder for seeding at the proper rate before seeding operations are started and to maintain their adjustment during seeding. Seed in hoppers shall be agitated to prevent segregation of the various seeds in a seeding mixture.
- D. Immediately after sowing, the seeds shall be covered and compacted to a depth of 1/8 to 3/8 inch by a cultipacker or suitable roller.

Seeding

- E. Leguminous seeds shall be inoculated prior to seeding with an approved and compatible nitrogen-fixing inoculated in accordance with the manufacturer's mixing instructions.

3.3 Mulching

- A. All seeded areas shall be uniformly mulched in a continuous blanket immediately after seeding. The mulch shall be applied so as to permit some sunlight to penetrate and the air to circulate and at the same time shade the ground, reduce erosion, and conserve soil moisture. Approximately 25 percent of the ground shall be visible through the mulch blanket.
- B. One of the following mulches shall be spread evenly over the seeded areas at the following application rates:
 - 1. Wood Cellulose Fiber 1,400 lbs./acre
 - 2. Stalks 4,000 lbs./acre
 - 3. Straw 4,000 lbs./acre

These rates may be adjusted at the discretion of the Engineer at no additional cost to the Owner, depending on the texture and condition of the mulch material and the characteristics of the seeded area.

- C. Mulch on slopes greater than 3 to 1 ratio shall be held in place by the use of an approved mulch binder. Binder shall be thoroughly mixed and applied with the mulch. Emulsified asphalt or cutback asphalt shall be applied at the approximate rate of 5 gallons per 1,000 square feet as required to hold the mulch in place.
- D. The Contractor shall cover structures, poles, fence, and appurtenances if the mulch binder is applied in such a way that it would come in contact with or discolor the structures.
- E. Mulch and binder shall be applied by suitable blowing equipment at closely controlled application rates.

3.4 Watering

- A. Contractor shall be responsible for maintaining the proper moisture content of the soil to ensure adequate plant growth until a satisfactory stand is obtained. If necessary, watering shall be performed to maintain adequate water content in the soil.
- B. Watering shall be accomplished by hoses, tank trucks, or sprinklers in such a way to prevent erosion, excessive runoff, and overwatered spots.

3.5 Maintenance and Bond

- A. Upon completion of seeding operations, the Contractor shall clear the area of all equipment, debris, and excess material and the premises shall be left in a neat and orderly condition.
- B. No equipment, material storage, construction traffic, etc., will be permitted on newly seeded ground.
- C. The Contractor shall maintain all seeded areas without additional payment until final acceptance of the work by the Owner. Seeding work shall be repeated on defective areas until a satisfactory uniform stand is accomplished. Damage resulting from erosion, gullies, washouts, or other causes shall be repaired by filling with topsoil, compacting, and repeating the seeding work at contractor's expense.
- D. A grassing bond will be required to cover all grassed area, solid sod areas, and erosion control for one year after the time of planting seed or placing sod.

3.6 Field Quality Control

- A. The Owner's Representative shall inspect the seeding within 60 days after planting and determine if an acceptable stand of grass has been produced.
- B. If an acceptable growth is not obtained on the first planting, reseeding and remulching will be required.
- C. If the planting is less than 50 percent successful, rework the ground, refertilize, reseed, and remulch.

END OF SECTION

Part 1 General

1.1 Work Included

- A. The Contractor shall furnish and install bored or jacked steel casing, complete and in place, all in accordance with the requirements of the Contract Documents. Carrier pipe installation within the steel casing shall be in accordance with the requirements contained within this Section.
- B. In the performance of the work, the Contractor shall comply with the lawful requirements of the affected railway companies, public agencies, and owners of public utilities or other facilities respecting the safeguarding of traffic and improvements which might be endangered by the boring and jacking operations. Approach trenches in public streets will not be permitted to remain open for extended periods of time.
- C. If the Contractor is not ready to place the pipe in the casing at the time of completion of boring and jacking operations, the ends shall be bulkheaded, and the approach trenches in public streets shall be backfilled, temporary surfacing placed thereon, and the affected portion of the street reopened to traffic.
- D. The Contractor shall be responsible for maintaining the specified line and grade, and for preventing settlement of overlying structures, or other damage due to the boring and jacking operations.

1.2 Related Sections

- A. Section 31 23 33 – Trenching and Backfilling.

1.3 Definitions

- A. Boring – the method of excavating soil to create a conduit between two points without disturbing the surface between the sending and receiving pits. Methods included herein, but are not limited to, are auger boring, tunnel boring, and micro tunneling.

1.4 Submittals

- A. Submit in accordance with Section 01 33 00.
- B. The Contractor, prior to beginning any trench or structure excavation 5 feet deep or over, shall submit to the Engineer a detailed plan showing design of all shoring, bracing, sloping of the sides of excavation, or other provisions for worker protection against the hazard of caving ground during the excavation of such trenches or structure excavation. Such design shall be signed and sealed by a professional engineer.

- C. Submittals:
1. Casing installation schedules which include schedules of excavation, pipeline installation and backfill operations.
 2. Material list including diameter, thickness, and class of steel casing.
 3. Detailed locations and sizes of all boring or jacking and receiving pits.
 4. The method of transporting the pipe in the casing and the method of "tugging" the pipe into the joints.
 5. Details of concrete support blocks and bracing to prevent the carrier pipe from shifting or floating.
 6. All permits associated with the boring or jacking operations.
- D. Certifications: The Contractor shall furnish a certified affidavit of compliance for all pipe and other products or materials furnished under this Section. Provide certification of physical and chemical properties of all steel.

1.5 Quality Assurance

- A. All boring or jacking operations shall be done by a qualified Contractor with at least 5 years' experience involving work of a similar nature.
- B. The Contractor shall give the Engineer and the Owner a minimum of 3 days advance notices of the start of an excavation or boring operation.
- C. All work shall be performed in the presence of the Engineer and the Owner.
- D. Welding Requirements: All welding procedures used to fabricate steel casings shall be prequalified under the provisions of ANSI/AWS D1.1. Welding procedures shall be required for, but not necessarily limited to, longitudinal and girth or special welds for pipe cylinders, casing joint welds, reinforcing plates and grout coupling connections.
- E. All welding shall be done by skilled welders, welding operators, and tackers who have had adequate experience in the type of materials to be used. Welders shall be qualified under the provisions of ANSI/AWS D1.1 by an independent local, approved testing agency not more than 6 months prior to commencing work on the casing or pipeline. Machines and electrodes similar to those used in the work shall be used in qualification tests. The Contractor shall furnish all material and bear the expense of qualifying welders.

Part 2 Products

2.1 Casing Pipe

- A. The casing pipe shall be of steel meeting the latest approved American Railway Engineering Association "Specification for Pipelines for Carrying Flammable and

Nonflammable Substances.” The steel casing pipe shall have a minimum yield strength of 35,000 psi and shall have the minimum wall thickness shown in the following table:

TABLE OF MINIMUM WALL THICKNESS FOR STEEL CASING PIPE

CARRIER PIPE	CASING PIPE	NOMINAL THICKNESS
4	8	0.250 inch
6	12	0.250 inch
8	16	0.250 inch
10	18	0.250 inch
12	20	0.250 inch
14	24	0.250 inch
16	30	0.312 inch
18	30	0.312 inch

2.2 Carrier Pipe

- A. The carrier pipe shall be ductile iron pipe.
- B. The carrier pipe shall conform with the requirements of Section 33 34 00 - Sanitary Utility Sewerage Force Mains.
- C. All joints within the casing shall be restrained.

2.3 Materials

- A. Grout: Grout shall consist of one part Portland cement, three parts sand and the minimum amount of water necessary to obtain the desired consistency and all grout mixtures shall contain 2 percent of bentonite by weight of the cement. Portland cement, water and sand shall conform to the applicable requirements of the specification except that sand to be used shall be of such fineness that 100 percent will pass a Standard No. 8 sieve and at least 45 percent, by weight, will pass a Standard No. 40 sieve. Bentonite shall be a commercial-processed powdered bentonite, Wyoming type, such as Imacco-gel, Black Hills, or equal.
- B. Grout Connections: The Contractor shall provide grout connections on the interior of the steel casing pipe as specified. Longitudinal spacing between the grout connections may be decreased to provide more frequent grouting, but in no case shall the spacings shown or specified be exceeded.
- C. Casing Spacers:
 - 1. The casing spacers shall be constructed of circular stainless steel bands, which bolt together forming a shell around the carrier pipe. The casing spacer shall be lined with a ribbed EPDM extrusion with a retaining section that overlaps the edges of the shell and prevents slippage. The spacer shall be designed with risers and runners to support the carrier pipe within the casing and maintain a minimum clearance of 1.0 in. between the casing ID and the carrier pipe OD.
 - 2. The runners shall be Glass Filled Polymer with ends of the runners beveled to facilitate installation over rough weld beads or the weld ends of misaligned or deformed casing pipe. The runners shall be attached to support structures (risers) at appropriate positions to properly support the carrier pipe within the

casing and to ease installation. They shall have a minimum length of 8.0 in. and a minimum width of 2.0 in.

3. The shell shall be manufactured of 14-gauge T-304 stainless steel. The riser shall be constructed of 10-gauge T-304 stainless steel, with a height to be determined based on the annular space between the carrier pipe OD and the casing ID.
4. Unless otherwise shown, spacers shall be placed 1-2 feet on either side of the bell joint and one every 6-8 feet apart thereafter for a total of three casing spacers per joint of pipe.

D. Casing End Seals

1. End seals shall be wrap-around seals.
2. The Wrap-Around end seal shall be manufactured of 1/8" thick neoprene rubber. Provide minimum 2" wide T-304 stainless steel banding with 100% non-magnetic worm gear mechanism.

Part 3 Execution

3.1 General

- A. Interpretation of soil investigation reports and data, investigating the site and determination of the site soil conditions prior to bidding is the sole responsibility of the Contractor. Any subsurface investigation by the Bidder or Contractor must be approved by the appropriate authority having jurisdiction over the site. Rock and/or water, if encountered, shall not entitle the Contractor to additional compensation.
- B. Casing construction shall be performed so as not to interfere with, interrupt or endanger roadway surface and activity thereon, and minimize subsidence of the surface, structures, and utilities above and in the vicinity of the casing. Support the ground continuously in a manner that will prevent loss of ground and keep the perimeters and face of the casing, passages and shafts stable. The Contractor shall be responsible for all settlement resulting from casing operations and shall repair and restore damaged property to its original or better condition at no cost to the Owner
- C. Face Protection: The face of the excavation shall be protected from the collapse of the soil into the casing.
- D. Bore Pit Design: Design of the bore pit and required bearing to resist installation forces are the responsibility of the Contractor. The excavation method selected shall be compatible with expected ground conditions. The lengths of the casing shown on the Drawings are the minimum lengths required. The length of the casing may be extended for the convenience of the Contractor, at no additional cost to the Owner. Due to restrictive right of way and construction easements, casing lengths less than the nominal 20 foot length may be necessary.

3.2 Highway Crossings

- A. The Contractor shall be held responsible and accountable for the coordinating and scheduling of all construction work within the highway right of way.
- B. Work along or across the highway department rights of way shall be subject to inspection by such highway department.
- C. All installations shall be performed to leave free flows in drainage ditches, pipes, culverts or other surface drainage facilities of the highway, street or its connections.
- D. No excavated material or equipment shall be placed on the pavement or shoulders of the roadway without the express approval of the highway department.
- E. In no instance will the Contractor be permitted to leave equipment (trucks, backhoes, etc.) on the pavement or shoulder overnight. Construction materials to be installed, which are placed on the right of way in advance of construction, shall be placed in such a manner as not to interfere with the safe operation of the roadway.
- F. The Contractor shall be responsible for providing the Owner sufficient information to obtain a blasting permit, if required, in a timely manner.

3.3 Groundwater Control

- A. The Contractor shall control the groundwater throughout the construction of the casing.
- B. Methods of dewatering shall be at the option and responsibility of the Contractor. Maintain close observation to detect settlement or displacement of surface facilities due to dewatering. Should settlement or displacement be detected, notify the Engineer immediately and take such action as necessary to maintain safe conditions and prevent damage.
- C. When water is encountered, provide and maintain a dewatering system of sufficient capacity to remove water on a 24 hour basis keeping excavations free of water until the backfill operation is in progress. Dewatering shall be performed in such a manner that removal of soil particles is held to a minimum.

3.4 Safety

- A. Provide all necessary bracing, bulkheads and shields to ensure complete safety to all traffic, persons and property at all times during the work. Perform the work in such a manner as to not permanently damage the roadbed or interfere with normal traffic over it.
- B. Observe all applicable requirements of the regulations of the authorities having jurisdiction over this site. Conduct the operations in such a manner that all work will be performed below the level of the roadbed.
- C. Perform all activities in accordance with the Occupational Safety and Health Act of 1970 (PL 596), as amended, applicable regulations of the Federal Government,

OSHA 29CFR 1926 and applicable criteria of ANSI A10.16 81, "Safety Requirements for Construction of Tunnel Shafts and Caissons".

3.5 Surface Settlement Monitoring

- A. Provide surface settlement markers, placed as specified and as directed by the Engineer. The Contractor shall place settlement markers outside of pavement area, along the centerline of the casing at 20 foot intervals and offset 10 feet each way from the centerline of the tunnel. Markers shall also be placed at each shoulder of the roadway, at each edge of pavement, at the centerline of the pavement and at 10 and 25 feet in each direction from the centerline of the casing. Tie settlement markers to bench marks and indices sufficiently removed as not to be affected by the casing operations.
- B. Make observations of surface settlement markers, placed as required herein, at regular time intervals acceptable to the Engineer. In the event settlement or heave on any marker exceeds 1 inch, the Contractor shall immediately cease work and using a method approved by the Engineer and the authority having jurisdiction over the project site, take immediate action to restore surface elevations to that existing prior to start of casing operations.
- C. Take readings and permanently record surface elevations prior to start of dewatering operations and/or shaft excavation. The following schedule shall be used for obtaining and recording elevation readings: all settlement markers, once a week; all settlement markers within 50 feet of the casing heading, at the beginning of each day; more frequently at the Engineer's direction if settlement is identified. Make all elevation measurements to the nearest 0.01 foot.
- D. The Contractor shall cooperate fully with jurisdictional personnel. Any settlement shall be corrected by, and at the expense of, the Contractor.
- E. Promptly report any settlement and horizontal movement immediately to the Engineer and take immediate remedial action.

3.6 Boring

- A. The boring shall be accomplished to the size, line, and grade shown on the Drawings.

3.7 Installation of Casing Pipe

- A. **Jacking Head:** A steel jacking head shall be fitted to the lead section of the casing in such a manner that it extends around the entire outer surface of the steel casing and projects at least 18 inches beyond the driving end of the casing. The jacking head shall not protrude more than 0.5 inches outside of the outer casing surface. The head shall be securely anchored to prevent any wobble or alignment variation during the boring or jacking operations. To minimize voids outside the casing, excavation shall be carried out entirely within the jacking head and not in advance of the head. Excavated materials shall be removed from the casing as the boring or jacking operation progresses and no accumulation of excavated materials within the casing shall be permitted.

- B. Jacking Pit: The excavations for the boring or jacking operations shall be adequately shored to safeguard existing substructures and surface improvements and to ensure against ground movement in the vicinity of the jack supports. Heavy guide timber, structural steel, or concrete cradles of sufficient length shall be provided to assure accurate control of boring or jacking alignment. The Contractor shall provide adequate space within the excavation to permit the insertion of the lengths of casing to be bored or jacked. Timbers and structural steel sections shall be anchored to ensure action of the jacks in line with the axis of the casing. A bearing block, consisting of a timber or structural steel framework, shall be constructed between the jacks and the end of the casing to provide uniform end bearing over the perimeter of the casing and distribute the jacking pressure evenly.
- C. Control of Alignment and Grade: The Contractor shall control the application of the jacking pressure and excavation of materials ahead of the casing as it advances to prevent the casing from becoming earthbound or deviating from the required line and grade. The Contractor shall restrict the excavation of the materials to the least clearance necessary to prevent binding in order to avoid loss of ground and consequential settlement or possible damage to overlying structures. Allowable grade deviations in horizontal and vertical alignments shall be no greater than 0.2 feet per 100 feet in any direction over the length of the jacking or boring to a maximum deviation of 0.5 feet.
- D. Exterior Grouting: Immediately after completion of the boring or jacking operations, the Contractor shall inject grout through the grout connections in such a manner as to completely fill all voids outside the casing pipe resulting from the boring or jacking operations. Grout pressure shall be controlled so as to avoid deformation of the steel casing and avoid movement of the surrounding ground. After completion of the grouting operations, the Contractor shall close the grout connections with cast-iron threaded plugs.
- E. Installation: The installation of the casing shall be in accordance with the Contract Documents and subject to the approval of the agency having jurisdiction over the area containing the boring or jacking operations.
- F. Should appreciable loss of ground occur during the jacking operation, the voids shall be backpacked promptly to the extent practical with soil cement consisting of a slightly moistened mixture of one part cement to five parts granular material. Where the soil is not suitable for this purpose, the Contractor shall import, at the Contractor's expense, suitable material. The soil cement shall be thoroughly mixed and rammed into place as soon as possible after the loss of ground.

3.8 Installation of Carrier Pipe

- A. The carrier pipe shall be furnished by the Contractor. Upon acceptance of the casing, install the carrier pipe in the casing by jacking it through the casing. If necessary to achieve proper line and grade on the carrier pipe, strap wood or other suitable blocking to the carrier pipe to offset any minor variations in the alignment of the casing.
- B. Joints: All joints of the carrier pipe within the casing shall be joined in accordance with the specification Sections for the type of pipe material installed.

- C. Application of Coatings: Application of coatings to the exterior of the carrier pipe shall be performed in accordance with the requirements of the specification Sections for the type of pipe materials installed and as provided for in these Specifications.
- D. Testing of the Carrier Pipe: Hydrostatic testing of the carrier pipe shall be completed prior to the filling of the annular space between the casing and carrier pipe with sand. Hydrostatic testing shall be performed in accordance with the appropriate specification Section.
- E. Closing of Pits: After jacking equipment and excavated materials from the boring or jacking operations have been removed from the jacking pit, the Contractor shall prepare the bottom of the jacking pit as a pipe foundation. The Contractor shall remove all loose and disturbed materials below pipe grade to undisturbed earth and recompact the material in accordance with the specification 31 23 33 – Trenching and Backfilling.

3.9 Layout of Work

- A. The Owner will provide the necessary control points required by the Contractor for this construction. The Contractor will provide the detailed layout required to keep the tunnel or bore on the grade.

3.10 Guarantee of Work

- A. Guarantee a usable completed casing between the points specified and to the line and grade specified. The allowable tolerance at the downstream end point of the bore shall be such that the invert of the carrier pipe may be positioned within a vertical area limited on the top by an elevation no higher than the elevation shown on the Drawings and on the bottom by an elevation no lower than the existing inlet pipe invert. For sewers, the sides shall be a minimum of 8 inches inside the interior face of the manhole at the end of the bore.
- B. The allowable tolerance at the upstream end point of the bore shall be such that the invert of the carrier pipe may be positioned at the elevation shown on the Drawings.

END OF SECTION

Part 1 General

1.1 Work Included

- A. Furnish and install modular precast concrete manhole sections, with tongue-and-groove joints, with masonry transition to lid frame, covers, anchorage and accessories.

1.2 Related Sections

- A. Section 31 23 33 - Trenching and Backfilling.

1.3 Qualifications

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years' experience.

1.4 Submittals

- A. Submit under provisions of Section 01 33 00 - Submittal Procedures.
- B. Shop Drawing: Indicate manhole locations, elevations, piping, and sizes and elevations of penetrations.
- C. Product Data: Provide manhole covers, component construction, features, configuration, and dimensions.
- D. Certification for Fiberglass Reinforced Polyester (FRP) Manholes: As a basis of acceptance the FRP manhole manufacturer shall provide an independent certification which consists of a copy of the manufacturer's test report accompanied by a copy of the test results that the manhole has been sampled, tested, and inspected in accordance with the provisions of the specification of ASTM D 3753 and meets all requirements.

Part 2 Products

2.1 Concrete Materials

- A. Cement Mortar: Cement mortar shall conform to ASTM C270, Type M with Type II cement.
- B. Portland Cement: Submit certificates of compliance stating the type of cement used in manufacture of concrete pipe, fittings and precast manholes. Portland cement shall conform to ASTM C150/C150M, Type II for concrete used in concrete pipe, concrete pipe fittings, and manholes, and type optional with the Contractor for cement used in concrete cradle, concrete encasement, and thrust blocking. Where aggregates are alkali reactive, as determined by Appendix XI of ASTM C33/C33M, a cement containing less than 0.60 percent alkalies shall be used.

 Manholes and Covers

- C. Portland Cement Concrete: Portland cement concrete shall conform to ASTM C94/C94M, compressive strength of 4000 psi at 28 days, except for concrete cradle and encasement or concrete blocks for manholes. Concrete used for cradle and encasement shall have a compressive strength of 2500 psi minimum at 2 days. Concrete in place shall be protected from freezing and moisture loss for 7 days.

2.2 Manholes

- A. General: Manholes shall be cylindrical, with a 48" minimum inside diameter. Increase diameter as indicated on drawings. Provide eccentric cone top sections.
- B. Precast Concrete Manholes:
1. Precast concrete manhole risers, base sections, and tops shall conform to ASTM C478; except that the minimum wall thickness shall be 6".
 2. Base and first riser shall be monolithic.
 3. The manhole sidewall shall be of a length such that a minimum of one course and a maximum of 2 courses of bricks shall be placed on top of the unit to bring the casting to grade. A precast concrete adjusting ring may be used for this purpose, conforming to the height ranges specified for brick.
 4. Precast manholes are to be manufactured by Cloud, Sherman Dixie or approved equal.
 5. Plastic Gasket for Precast Manholes: Preformed plastic gasket shall meet or exceed all requirements of FS SS-S-210-A, "Sealing Compound, Preformed Plastic for Pipe Joints," Type I, and ASTM C990, rope formed. It shall be supplied in extruded rope form of suitable cross section and in such sizes as to seal the joint space when the manhole sections are installed. The sealing compound shall be protected by a suitable removable 2-piece wrapper, which shall be designed so that half may be removed longitudinally without disturbing the other half in order to facilitate application of the sealing compound. The flexible plastic gasket shall also meet the requirements of the following table:

Property	Test Method	Minimum	Maximum
Specific Gravity @ 77°F	ASTM D71	1.20	1.30
Ductility @ 77°F (5 cm/min)	ASTM D113	5.0	--
Softening Point (°F)	ASTM D36	320	--
Penetration @ 77°F (cm) (150 g-5 secs.)	ASTM D217	50	120

2.3 Metal Items

- A. Cast Iron Frames, Covers, and Gratings for Manholes:
1. Frames and covers shall be ASTM A48, Class 30B cast iron or ductile iron, made accurately to the required dimensions; sound, smooth, clean, and free from blisters and other defects; not plugged or otherwise treated to remedy defects; machined so that covers rest securely in the frames with no rocking and are in contact with frame flanges for the entire perimeter of the contact surfaces;

thoroughly cleaned subsequent to machining and before rusting begins; and with the actual weight in pounds stenciled or printed by the manufacturer on each casting in white paint.

2. Castings shall be Neenah R-1642, or equal, with clear inside diameter of 24 inches. The frames and covers shall have a combined weight of not less than 400 pounds.
3. Watertight castings shall be Neenah R-1915-G or equal, with clear inside diameter of 24 inches.

B. Manhole Steps

1. Zinc-coated steel conforming to 29 CFR 1910.27. As an option, plastic or rubber coating pressure-molded to the steel may be used. Plastic coating shall conform to ASTM D4101, copolymer polypropylene. Rubber shall conform to ASTM C443M ASTM C443, except shore A durometer hardness shall be 70 plus or minus 5. Aluminum steps or rungs will not be permitted. Steps are not required in manholes less than 4 feet deep.

Part 3 Execution

3.1 Examination

- A. Verify items provided by other sections of Work are properly sized and located.
- B. Verify that built-in items are in proper location, and ready for roughing into Work.
- C. Verify excavation for manholes is correct.

3.2 Preparation

- A. Coordinate placement of inlet and outlet required by other sections.

3.3 Placing Manhole Sections

- A. Level base area and place minimum twelve inches (12") compacted bedding.
- B. Concrete Manholes:
 1. Construct base slab of cast-in-place concrete or use precast concrete base sections. Make inverts in cast-in-place concrete and precast concrete bases with a smooth-surfaced semi-circular bottom conforming to the inside contour of the adjacent sewer sections.
 2. For changes in direction of the sewer and entering branches into the manhole, make a circular curve in the manhole invert of as large a radius as manhole size will permit.
 3. For cast-in-place concrete construction, either pour bottom slabs and walls

integrally or key and bond walls to bottom slab. No parging will be permitted on interior manhole walls.

4. For precast concrete construction, make joints between manhole sections with the gaskets specified for this purpose. Parging will not be required for precast concrete manholes.
 5. Make joints between concrete manholes and pipes entering manholes with the resilient connectors specified for this purpose; install in accordance with the recommendations of the connector manufacturer.
 6. Where a new manhole is constructed on an existing line, remove existing pipe as necessary to construct the manhole. Cut existing pipe so that pipe ends are approximately flush with the interior face of manhole wall, but not protruding into the manhole. Use resilient connectors as previously specified for pipe connectors to concrete manholes.
- C. Coordinate with other sections of Work to provide correct size, shape, and location.
 - D. Backfill manhole in accordance with Section 31 23 33 - Trenching and Backfilling.

3.4 Masonry Construction

- A. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- B. Lay masonry units in running bond.
- C. Form flush mortar joints.
- D. Lay masonry units in full bed of mortar, with full head joints, uniformly jointed with other Work.
- E. Set cover frames and covers level without tipping, to correct elevations.
- F. Coordinate with other sections of Work to provide correct size, shape, and location.
- G. Backfill manhole in accordance with Section 31 23 33 - Trenching and Backfilling.

END OF SECTION

Part 1 General

1.1 Section Includes

- A. Pipe and fittings for underground force mains.
- B. Valves and appurtenances.

1.2 Related Sections

- A. Section 31 23 33 – Trenching and Backfilling.
- B. Section 32 92 19 – Seeding.

1.3 Submittals

- A. Submit in accordance with Section 01 33 00 - Submittal Procedures.
- B. Product Data: Submit manufacturer's standard drawings or catalog cuts. Include information concerning gaskets with submittals for joints and couplings. Provide data on:
 - 1. Pipe materials.
 - 2. Pipe fittings, joints, valves, couplings and accessories.
 - 3. Valve boxes.
- C. Manufacturer's Certificates:
 - 1. Certify that pipe, fittings, and valves meet or exceed specified requirements.
- D. Project Record Documents: Submit in accordance with Section 01 78 39 – Project Record Documents.
- E. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations. For all valves and fittings, provide GPS coordinates (to centimeter accuracy). Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.4 Quality Assurance

- A. Perform Work in accordance with Owner's requirements and applicable regulations of the State of Tennessee.

1.5 Delivery, Storage, and Handling

- A. Inspect materials delivered to site for damage. Unload and store with minimum handling. Store materials on site in enclosures or under protective covering. Do not store materials directly on the ground. Store PVC pipe away from heat or direct sunlight.
- B. Deliver and store valves in shipping containers with labeling in place.
- C. Keep the interiors of all piping, fittings and other accessories free from dirt and foreign matter at all times.
- D. Handle pipe, fittings, valves and other accessories in a manner to ensure delivery to the trench in sound undamaged condition. Take special care to avoid injury to coatings and linings on pipe and fittings; make repairs if coatings or linings are damaged. Do not place any other material or pipe inside a pipe or fitting after the coating has been applied. Carry, do not drag pipe to the trench. Use of pinch bars and tongs for aligning or turning pipe will be permitted only on the bare ends of the pipe. The interior of pipe and accessories shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging or other approved method. Before installation, the pipe shall be inspected for defects. Material found to be defective before or after laying shall be replaced with sound material without additional expense to the Owner. Store rubber gaskets that are not to be installed immediately, under cover out of direct sunlight. Under no circumstances shall pipe be dropped or dumped from delivery trucks to the ground or into the trench.

Part 2 Products

2.1 General

- A. All materials of the same type shall be the product of the same manufacturer.
- B. Unless otherwise shown on drawings, piping for force mains less than 4 inches in diameter shall be polyvinyl chloride (PVC) plastic or polyethylene (PE) plastic. Piping for force mains 4 inches in diameter and larger shall be ductile iron or PVC plastic. Piping 4 inches in diameter and larger inside pump stations shall be ductile iron pipe with bolted flange joints. Pipe shall conform to the respective specifications and other requirements specified below.

2.2 Ductile Iron Pipe

- A. Ductile Iron Pipe: Push-on, single gasket joint with rubber gasket in accordance with AWWA C151/A21.51. The design thickness shall be that specified by ANSI A21.50/AWWA C150 with a wall thickness of Pressure Class 350. Pipe and fittings shall be lined with Protecto 401 or Permax CTF. The outside coating shall be manufacturer's standard asphaltic coating.
 - 1. Fittings: Ductile iron, mechanical joint ANSI A21.10/AWW/A C110, standard body or ANSI A21.53/AWWA C153, compact, lined with same material as pipe.

2. Joints: Joints for pipe and fittings shall be push-on joints unless otherwise indicated. Provide mechanical joints where indicated.
 - a. Push-On Joints: Shape of pipe ends and fitting ends, gaskets, and lubricant for joint assembly, per AWWA C111/A21.11.
 - b. Mechanical Joints: Dimensional and material requirements for pipe ends, glands, bolts and nuts, and gaskets, AWWA C111/A21.11.
3. Restrained Pipe Joints (where indicated on the drawings): Push-on joints with American Ductile Iron Pipe Fast-Grip gaskets, Flex Ring, Lok-Ring, or approved equal or mechanical joints with Ebaa Iron Megalug Series 1100 joint restraints.
4. Restrained Fitting Joints (where indicated on the drawings): Mechanical joints with Ebaa Iron Megalug Series 1100 joint restraints

B. Manufacturers:

1. Ductile Iron Pipe
 - a. American Cast Iron Pipe Company
 - b. McWane Ductile
 - c. U. S. Pipe and Foundry Company
2. Push-On Single Gasket Joints
 - a. "Fastite" by American Cast Iron Pipe Company
 - b. "Tyton" by U. S. Pipe and Foundry Company
3. Ductile Iron Fittings, mechanical joint
 - a. American Cast Iron Pipe Company
 - b. Tyler Union
 - c. U. S. Pipe and Foundry Company
4. Substitutions: See Section 01 25 00 – Substitution Procedures.

2.3 Poly (Vinyl Chloride) (PVC) Plastic Piping - AWWA Type

A. Pipe and Fittings, 4" and Larger:

1. PVC Pipe 4" to 60" shall be AWWA C900, with gasket bell end, Pressure Class 235 (DR 18) with cast-iron-pipe-equivalent OD. Each length of pipe furnished shall bear identification markings in conformance with Section 2.6 of AWWA Standard C900.

2. Fittings for PVC pipe: Fittings shall be gray iron or ductile iron, mechanical joint, AWWA C110/A21.10 or AWWA C153/A21.53. Fittings shall be lined with Protecto 401, Permox CTF, or Engineer-approved equal. The outside coating shall be manufacturer's standard asphaltic coating. Pipe and couplings for PVC plastic pipe shall be manufactured of material conforming to ASTM F1483 and ASTM D1784, Class 12454-B.
 3. Joints and Jointing Material: Joints for pipe shall be push-on joints, ASTM D3139. Joints between pipe and metal fittings, valves, and other accessories shall be mechanical joints, ASTM D3139 and AWWA C111/A21.11. Provide each joint connection with an elastomeric gasket suitable for the bell or coupling with which it is to be used. Gaskets for push-on joints for pipe, shall comply with ASTM F477. Gaskets for mechanical joints for joint connections between pipe and metal fittings, valves, and other accessories, shall comply with AWWA C111/A21.11.
 4. Restrained Pipe Joints (where indicated on the drawings): push-on joints with Ebaa Iron Megalug Series 1900/2800 joint restraints or approved equal.
 5. Restrained Fitting Joints (where indicated on the drawings): Mechanical Joints with Ebaa Iron Megalug Series 2000PV joint restraints or approved equal.
- B. Manufacturers:
1. PVC Pipe
 - a. NAPCO
 - b. Johns Manville
 2. Substitutions: See Section 01 25 00 – Substitution Procedures.

2.4 Valves

- A. General:
1. Provide manufacturer's name and pressure rating marked on valve body.
 2. All exterior bolting, fasteners, etc., shall be stainless steel.
- B. Plug Valves:
1. Nonlubricated type eccentric valves, 3 inch thru 12 inch, shall be rated for 175 psig service at 140 degrees F. Valves shall have drip-tight shutoff with pressure from either direction and cast iron bodies. Exposed service valves shall have flanged ends in accordance with ASME B16.1 flanged or AWWA C606 grooved end connections. Buried service valves shall have mechanical joint ends, unless otherwise noted.

2. Plug shall be all metal, matching body with round port with no less than 100% of connecting pipe area and coated with Buna-N, welded nickel seats, self-lubricating stainless steel stem bearings, and stem seal multiple V-rings or U-cups with O-rings of nitrile rubber, with grit seals on both upper and lower bearings. Valves to 6" shall be provided with lever operator (exposed) or operating nut (buried). Larger valves shall be equipped with totally enclosed, geared, manual operator with handwheel or 2-inch nut. Size operator for 1.5 times the maximum shutoff pressure differential for direct and reverse pressure, whichever is higher. For buried service, provide completely sealed operator filled with heavy lubricant and 2-inch nut.
 3. Manufacturers and Products:
 - a. Pratt Ballcentric.
 - b. Milliken
 4. Substitutions: See Section 01 25 00 – Substitution Procedures.
- C. Gate Valves 2 Inches and Over:
1. Resilient-seated Gate Valve: AWWA C509, ductile iron body, bronze trim, non-rising stem with square nut, stem seal with O-ring; open counterclockwise when viewed from above, single wedge, mechanical joint; extension box for depths over 4 foot. Provide special gearing as specified. Provide special materials and rust proof bolts and nuts for water with pH less than 6.5, with pH greater than 8.5, or that promotes galvanic corrosion.
 2. Enclosed and buried valves shall be coated inside and outside with a fusion bonded epoxy having a nominal 8 mils dry film thickness, which meets or exceeds AWWA C550-01 and to the maximum extent possible shall be free of holidays. All coatings in contact with the potable water shall be approved for potable water immersion service per ANSI/NSF Standard 61.
 3. Manufacturer/Product:
 - a. American Flow Control 2500.
 - b. Mueller Company A2361.
 - c. United States Pipe & Foundry Metroseal.
 - d. Clow Valve Company 2638.
 4. Substitutions: See Section 01 25 00 – Substitution Procedures.

2.5 Accessories

- A. Valve Boxes: Provide a valve box for each valve. Valve boxes shall be of cast iron of a size suitable for the valve on which it is to be used, minimum internal diameter of 5-1/4" and shall be adjustable. Cast-iron boxes shall have a minimum cover and wall thickness of 3/16 inch. Boxes shall be Buffalo type, 3-piece adjustable.

1. Manufacturers/Product:
 - a. Bingham & Taylor #4906
 - b. Star Pipe Products VB-0006
 2. Required for every valve.
- B. Stem Extensions: Manufacturer/Product: Bingham & Taylor #5051 or Approved Equal.
- C. Rods for Restraint: Stainless Steel.

Part 3 Execution

3.1 Examination

- A. Verify that municipal utility force main size, location, and invert are as indicated on the drawings. Report any discrepancies to the Engineer before proceeding with the work.
- B. Examine all pipe, fittings, valves, and other appurtenances carefully for damage and other defects immediately before installation. Mark defective materials and hold for final disposition.

3.2 Preparation

- A. Cut pipe ends square and beveled, ream pipe and tube ends to full pipe diameter, remove burrs.
- B. Remove scale and dirt on inside and outside before assembly.
- C. Prepare pipe connections to equipment with flanges, unions or threaded.

3.3 Trenching

- A. Hand trim excavation for accurate placement of pipe to elevations indicated. Bell holes shall be big enough so that there is ample room for pipe joints to be properly made. Between bell holes, carefully grade the bottom of the trench so that each pipe barrel will rest on a solid foundation for its entire length.
- B. Restrained Joints. Restrained Joints shall be installed as shown on the plans or as directed by the Engineer. Installation shall conform to the manufacturer's recommendation.
- C. The standard laying conditions shall be completed in accordance with ANSI/AWWA C150/A21.50 and as required by the specifications.

3.4 Installation - Pipe

A. Separation of Water Mains from Sanitary Sewer Mains

1. Parallel Installation

- a. Normal conditions - Water mains shall be laid at least 10 feet horizontally from any sanitary sewer, storm sewer or sewer manhole, whenever possible; the distance shall be measured edge-to-edge.
- b. Unusual conditions - When local conditions prevent a horizontal separation of 10 feet, a water main may be laid closer to a storm or sanitary sewer provided that:
 - 1) The bottom of the water main is at least 18 inches above the top of the sewer;
 - 2) Where this vertical separation cannot be obtained, the sewer shall be constructed of materials and with joints that are equivalent to water main standards of construction and shall be pressure tested to assure water-tightness prior to backfilling.

2. Crossings

- a. Normal conditions - Water mains crossing house sewers, storm sewers or sanitary sewers shall be laid to provide a separation of at least 18 inches between the bottom of the water main and the top of the sewer, whenever possible.
- b. Unusual conditions - when local conditions prevent a vertical separation as described in 2.a. above, the following construction shall be used:
 - 1) Sewers passing over or under water mains should be constructed of materials and with joints that are equivalent to water main standards of construction and shall be pressure tested to assure water-tightness prior to backfilling.
 - 2) Water mains passing under sewers shall, in addition, be protected by providing:
 - 3) Provide a vertical separation of at least 18 inches between the bottom of the sewer and the top of the water main;
 - 4) Provide adequate structural support for the sewers to prevent excessive deflection of joints and settling on and breaking the water mains;
 - 5) The length of water pipe shall be centered at the point of crossing so that the joints will be equidistant and as far as possible from the sewer.

- 6) Both the sewer and the water main shall be constructed of water pipe materials and tested in accordance with this specification.
- B. Lay force main lines to and maintain at the lines and grades required by the drawings. All fittings and valves shall be at the required locations, the spigots centered in the bells, and all valve stems plumb. Establish elevations of buried piping to ensure not less than 36 inches of cover unless otherwise indicated on the drawings.
 - C. Install ductile iron piping and fittings in accordance with AWWA C600 and manufacturer's recommendations.
 1. Jointing: Make push-on joints with the gaskets and lubricant specified for this type joint; assemble in accordance with the applicable requirements of AWWA C600 for joint assembly. Make mechanical joints with the gaskets, glands, bolts, and nuts specified for this type joint; assemble in accordance with the applicable requirements of AWWA C600 for joint assembly and the recommendations of Appendix A to AWWA C111/A21.11.
 2. Allowable Deflection: The maximum allowable deflection shall be as given in AWWA C600. If the alignment requires deflection in excess of the above limitations, special bends or a sufficient number of shorter lengths of pipe shall be furnished to provide angular deflections within the limit set forth.
 - D. Install PVC force main in accordance with AWWA C605 and manufacturer's recommendations for laying of pipe, joining PVC pipe to fittings and accessories, and setting of hydrants, valves, and fittings; and with the recommendations for pipe joint assembly and appurtenance installation in AWWA M23, Chapter 7, "Installation."
 1. Jointing:
 - a. Threaded joints shall be made by wrapping the male threads with joint tape or by applying an approved thread lubricant, then threading the joining members together. The joint shall be tightened with strap wrenches which will not damage the pipe and fittings. The joint shall be tightened no more than 2 threads past hand-tight.
 - b. Push-on joints: The ends of pipe for push-on joints shall be beveled to facilitate assembly. Pipe shall be marked to indicate when the pipe is fully seated. The gasket shall be lubricated to prevent displacement. The gasket shall remain in proper position in the bell or coupling while the joint is made.
 - c. Solvent-weld joints shall comply with the manufacturer's instructions.
 - d. Make mechanical joints with the gaskets, glands, bolts, and nuts previously specified for this type joint; assemble in accordance with the requirements of AWWA C605 for joining PVC pipe to fittings and accessories, with the applicable requirements of AWWA C600 for joint assembly, and with the recommendations of Appendix A to AWWA C111/A21.11. Cut off spigot end of pipe for mechanical-joint connections and do not re-bevel.

2. Offset: Maximum offset in alignment between adjacent pipe joints shall no more than 75% of value recommended by the manufacturer and approved by the Engineer but shall not exceed 5 degrees.
 3. Fittings: Install in accordance with AWWA C605.
- E. Thrust Restraint
1. Plugs, caps, tees and bends deflecting 11-1/4 degrees or more, either vertically or horizontally, shall be provided with thrust restraint. Valves shall be securely anchored or shall be provided with thrust restraints to prevent movement. Unless noted otherwise, thrust restraints shall be either thrust blocks or restrained joints.
 2. Restrained Joints: Restrained joints shall utilize joint restraints as indicated above. Where restrained lengths are not shown on the drawings, restraint shall be designed by the Contractor or the pipe manufacturer in accordance with DIPRA TRD.
- F. Route pipe as shown on the Drawings. Wherever pipe must be deflected from a straight line (in either the vertical or horizontal plane) in order to avoid obstructions or plumb stems, or wherever long radius curves are permitted, the amount of deflection shall not exceed 75% of the maximum deflection allowed by the pipe manufacturer, and shall be approved by the Engineer.
- G. Lay pipe with the bell ends facing in the direction of laying unless otherwise directed by the Engineer.
- H. Close the open ends of pipes with a watertight plug whenever pipe laying is not in progress. No debris, tools, clothing or other material shall be placed in the pipe at any time. If the joints of any pipe in the trench cannot be completed until a later time, caulk them with packing in order to make them as watertight as possible; this shall be done not only at the end of each working day but also before work is stopped for lunch periods, bad weather, or any other reason. If there is water in a trench, leave this seal in place until the trench has been pumped completely dry.
- I. Install a continuous length of tracer wire for the full length of each run of nonmetallic pipe. Attach wire to top of pipe in such manner that it will not be displaced during construction operations. Loop wire up in all valve boxes to provide a minimum 24" loop.
- J. Lay no pipe in water or when it is the Engineer's opinion that trench conditions are unsuitable. If crushed stone is used to improve trench conditions or as backfill for bedding the pipe, its use is considered incidental to the project, and no separate payment will be made for its use.
- K. When crossing water courses which are greater than 15 feet in width:
1. The pipe shall be of special construction, having flexible, watertight joints.

2. Valves shall be provided at both ends of water crossing and the valves shall be easily accessible and not subject to flooding.
 3. Two 3/4-inch taps should be made for sampling and testing.
- L. For installations requiring other forms of corrosion protection, see AWWA Manual M27.

3.5 Installation - Valves

- A. Prior to installation, valves shall be cleaned of all foreign matter and inspected for damage. Valves shall be fully opened and closed to ensure that all parts are properly operating. Valves shall be installed with the stem in the vertical position.
- B. Set valves on solid bearing. Set valves so that operators are plumb.
- C. Center and plumb valve box over valve. Set box cover flush with finished grade. Install valve boxes so that no vehicle loads are transmitted from the valve box to the valve.
- D. Provide support such as crushed stone, concrete pads or sufficiently tamped trench bottom, so pipe is not carrying weight of the valve.

3.6 Installation - Valve Box

- A. Provide concrete disk 2 feet- 0 inches diameter or 2 feet square - 4 inches thick around valve box when located in unpaved areas. Not required in paved areas.
- B. Backfill around box with clean 1/2-inch stone.
- C. Center and plumb over the wrench nut of the valve box cover flush with surface.

3.7 Field Quality Control

- A. Perform field inspection and testing in accordance with Section 01 45 29 – Testing Laboratory Services.
- B. Hydrostatic Testing
 1. Pressure test
 - a. Test restrictions. Test pressure shall not be less than 1.25 times the working pressure at the highest point along the test section.
 - b. Test pressure shall not exceed pipe or thrust-restraint design pressures.
 - c. The hydrostatic test shall be of at least 1-hour duration.
 - d. Valves shall not be operated in either direction at a differential pressure exceeding the rated valve working pressure. For tests at these pressures, the test setup should include a provision, independent of the valve, to

reduce the line pressure to the rated valve pressure on completion of the test. The valve can then be opened enough to equalize the trapped pressure with the line pressure, or the valve can be fully opened if desired.

- e. The test pressure shall not exceed the rated pressure of the valves when the pressure boundary of the test section includes closed valves.
2. 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. Each valved section of pipe shall be slowly filled with water, and the specified test pressure (based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge) shall be applied using a pump connected to the pipe. The system should be allowed to stabilize at the test pressure before conducting the hydrostatic test.
3. Before applying the specified test pressure, air shall be expelled completely from the section of piping under test. If permanent air vents are not located at all high points, corporation cocks shall be installed at these points to expel the air as the line is filled with water. After the air has been expelled, the corporation cocks shall be closed, and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed, and the pipe plugged or left in place as required by Engineer.
4. Any exposed pipe, fittings, valves, and joints shall be examined carefully during the test. Any damage or defective pipe, fittings, valves or joints that are discovered following the pressure test shall be repaired or replaced with reliable material, and the test shall be repeated until satisfactory results are obtained.

C. Leakage Test

1. Leakage shall be defined as the quantity of makeup water that must be supplied into the newly laid pipe or any valved section thereof to maintain the specified test pressure after the pipe has been filled with water and the air has been expelled. Leakage shall be measured by a drop in pressure in a test section over a period of time.
2. The leakage test shall be of at least a two-hour duration. Contractor to furnish the pump, pipe, connections, measuring devices, and all other necessary apparatus as well as all necessary assistance to conduct the test. The leakage test shall be conducted in the presence of the Owner's representative.
3. No pipe installation will be accepted if the amount by Table 3 of makeup water is greater than that listed.
4. Should any test of laid pipe disclose leakage greater than that specified, the Contractor shall, at his own expense, locate and repair or replace the defective joints until leakage is within the specified allowance.

5. All visible leaks are to be repaired regardless of the allowance used for testing.

Table 3 Leakage testing allowance per 1,000 ft of pipeline*-gph^t

Avg. Test Pressure psi	Pipe Size (inches)				
	4	6	8	10	12
250	0.43	0.64	0.85	1.07	1.28
225	0.41	0.61	0.81	1.01	1.22
200	0.38	0.57	0.76	0.96	1.15
150	0.33	0.50	0.66	0.83	0.99

*If the pipeline under test contains sections of various diameters, the testing allowance will be the sum of the testing allowance for each size.

^tCalculated by the following formula:

$$L = \frac{SD\sqrt{P}}{148,000}$$

Where L is allowable leakage in gallons/hour, S is the length of pipe tested in feet, D is pipe diameter in inches and P is test pressure in psi.

- D. If tests indicate that the Work does not meet specified requirements, repair the Work until it meets the requirements or remove the Work, replace and retest at no cost to the Owner.
- E. After each section of pipe is successfully tested, remove all debris and construction materials from the work site. Grade all areas to the elevations required by the drawings, or to the pre-construction elevations if no grade changes are required by the drawings. Seed all areas disturbed by the construction.

END OF SECTION

Part 1 General

1.1 Section Includes

- A. Valve Vaults.
- B. Air/Vacuum Valves for Wastewater Service.

Part 2 Products

2.1 Valve Vaults

- A. Valve Vaults: Valve vaults for automatic valves and meters installed below grade shall be constructed in accordance with Section 33 05 61 – Concrete Manholes and Covers.

2.2 General

- A. Air Release and Vacuum Breakers
 - 1. Air release vents shall be located, and vented, such that a hazardous atmosphere will not be created upon operation.
 - 2. Locations: Air release and vacuum breakers shall be located as indicated on the contract drawings.

2.3 Air/Vacuum Valves for Wastewater Service

- A. This specification covers automatic valves installed on wastewater mains to vent accumulated air under system pressure, and to provide air exhaust during initial fill or to prevent a vacuum during draining or water column separation of the system. The air and vacuum valve shall comply with AWWA C512.
- B. The air and vacuum valve shall be designed with the inlet and outlet of equal cross-sectional area where applicable. The valve shall be capable or automatically allowing large quantities of air to be exhausted during the filling cycle an also capable of automatically allowing air to re-enter the system to prevent a negative pressure at water column separation or during the draining cycle. The float shall be guided to minimize premature closure by air and to provide proper alignment for normal closure by floating on the water surface.
- C. Apco or Equal Cast Iron Sewage Air Vacuum Valves through 4”
 - 1. Cast Iron Valve Body and cover shall be in accordance with ASTM A48-35 or ASTM A126 class B. Inlet sizes through 2 inches shall be screwed (NPT), larger sizes shall be flanged.

2. Metallic Internal seat trim float arm and pivot pin shall be stainless steel type 303, 304 or 316. Metallic Floats shall be stainless steel ASTM A240. Other stainless steel metal internal parts shall be stainless steel ASTM A240 or ASTM A276.
3. Valves requiring internal seats or orifice buttons shall be Buna-N rubber compounded for water service. For valves requiring cover gaskets, the cover gasket shall be composition type, equal to Armstrong CS-231, Garlock 3000, or Lexide NK-511. If an O-Ring is used to seal the cover, it shall be on NSF 61 certified rubber. Cover bolts shall be alloy steel.
4. Valve body shall have a test pressure rating of 500 psi and working pressure rating of 150 psi.
5. The air release valve shall be designed to vent accumulated air automatically. The outlet orifice shall be properly sized to facilitate valve operation at pressures up to 150 psi. The air release valve shall be simple-lever or compound-lever depending upon volume requirements and the design of the valve.
6. Manufacturer/Model:
 - a. DeZurik/Apco 401.

Part 3 Execution

3.1 Examination

- A. After becoming familiar with all details of the work, verify all dimensions in the field, and advise the Engineer of any discrepancy before performing the work.

3.2 Preparation

- A. Protection: Openings shall be closed with caps or plugs during installation. Equipment shall be protected from dirt, water, and chemical or mechanical damage.

3.3 Valve Testing

- A. Submit copies of all field test reports within 24 hours of the completion of the test.
- B. Air and vacuum relief valves shall be examined as the associated pipe is being filled to verify venting and seating is fully functional.

END OF SECTION

RESOLUTION NO. 2021-005

**A RESOLUTION OF THE TOWN OF THOMPSON'S STATION, TENNESSEE
APPROVING THE SUBSCRIPTION AGREEMENT WITH IDT PLANS, LLC**

WHEREAS, the Town has a need for software for electronic plan review; and

WHEREAS, IDT PLANS, LLC streamlines permitting, planning/zoning, inspections, code enforcement, and business licensing, providing efficiencies in said areas; and

WHEREAS, the Board of Mayor and Aldermen has determined that it is in the best interest of the Town to approve the proposed subscription agreement and corresponding statement of work from Dude Solutions, Inc.

NOW, THEREFORE, BE IT RESOLVED by the Board of Mayor and Aldermen of the Town of Thompson's Station as follows:

That the subscription agreement by and between the Town of Thompson's Station and IDT PLANS, LLC is hereby approved, and the Mayor is authorized to execute the same on behalf of the Town.

RESOLVED AND ADOPTED this 9th day of March 2021.

Corey Napier , Mayor

ATTEST:

Town Recorder

APPROVED AS TO LEGALITY AND FORM:

Town Attorney

Phone: (615) 794-4333
Fax: (615) 794-3313
www.thompsons-station.com



1550 Thompson's Station Road W.
P.O. Box 100
Thompson's Station, TN 37179

MEMO

DATE: March 9, 2021

TO: BOMA

FROM: Micah Wood, Planning Director
Tyler Rainey, IT Coordinator
Jennifer Jones, Permit Technician

SUBJECT: Item 3: IDT Electronic Plan Review Contract

In November 2019, BOMA approved a contract for the SmartGov electronic plan review and permitting process hosted by Dude Solutions. Staff worked with the Dude Solutions beginning in early 2020 to configure and implement the electronic plan review and permitting protocols for SmartGov, which went live in Summer 2020. To date, the support, service, and product provided by Dude Solutions for the SmartGov platform have not met the Town Staff expectations. In Fall 2020, Staff made the determination that SmartGov would not be a long-term solution for the Town's electronic plan review and permitting needs. Town Staff exercised a clause in the contract with Dude Solution to move to a month-to-month service contract in anticipation of terminating the Town's service contract.

The benefits to electronic plan review and permitting have been made clear, even throughout the disappointing current circumstances. Therefore, Town Staff also began the process of looking for a replacement electronic plan review and permitting service. Since IDT was the only other respondent to the Town's 2019 interview process, Town Staff reached out to the local IDT representative and began conducting in-depth interviews with existing governmental IDT customers. Staff spoke with representatives from nearby jurisdictions (Fairview and Williamson County), as well as out of state jurisdictions (Vienna, Virginia, and Fayetteville, North Carolina) in order to hear the good, bad, and ugly related to their experiences with IDT. The results of the interviews proved very positive, with each government indicating they would highly recommend utilizing the IDT service for both plan review and permitting services.

An additional factor in the Town's consideration of IDT is that applicants for both plan review and permits are generally familiar with the IDT process, since it is used by Franklin, Fairview, and Williamson County. Based on the factors described above, Town Staff request the BOMA approval of the contract with IDT to implement a more efficient and more user friendly plan review and permitting software process.

The annual fee is generally in line with the Town's previous commitment to Dude Solutions. The configuration cost, while an additional budget request, will allow Town Staff to take the many lessons learned from the SmartGov configuration process and apply those lessons toward the creation of a better system for all applicants and users of the system.

Staff Recommendation

Approval of the IDT contract for electronic plan review and permitting.

Attachments

IDT Contract; IDT Quote; Resolution 2021-005



9420 E. Golf Links Rd.
Suite 108, #296
Tucson, AZ 85730
1 (844) 848-8667

CONFIDENTIAL

QUOTE B

Prepared For Town of Thompsons Station
Prepared On 1/15/2021
Prepared By Katy Rucker
Expires 4/15/2021

One Time Setup, Training, and Configuration Costs

Product / Service	Description	Qty	Rate	Amount
Bluebeam Licenses	Bluebeam Revu provides the professional PDF markup, measuring, and concurrent collaboration functionality that is essential for electronic plan review. Bluebeam perpetual desktop software licensed to individual workstations.	6	\$ 375.00	\$ 2,250.00
Application Form & Workflow Configuration Bundle (qty 3)	Professional configuration of up to three (3) unique application forms and associated workflows. Application forms are often synonymous with permit applications, however they could also include public record requests, general inquiries, or other various forms for collecting data.	5	\$ 6,000.00	\$ 30,000.00
Permit Type Configuration Bundle (qty 5)	Professional configuration of up to five (5) unique permit types types. Includes configuration of up to five (5) custom permit document templates.	3	\$ 3,750.00	\$ 11,250.00
Inspection Type Configuration Bundle (qty 5)	Professional configuration of up to five (5) unique inspection types.	3	\$ 5,000.00	\$ 15,000.00
Custom Document Template Configuration	Professional configuration of one (1) custom document template. Custom document templates automatically merge project specific information into standardized document layouts in just a few clicks. Examples include Certificate of Occupancy, Approval Letters, etc. One standard comment letter and one custom document header are included in your portal configuration costs.	1	\$ 500.00	\$ 500.00
Standard Training Course	A web based training course designed to build proficiency in the day to day operation of the idtPlans application. Each training course runs two hours in length and is performed remotely via screen sharing technology. This course is limited to a maximum of 10 participants.	1	\$ 1,000.00	\$ 1,000.00
Design Build Training Course	A web based training course to designed to build proficiency in administrating and customizing the idtPlans application. Topics cover building and editing applications, workflows, permit types, inspection types, checklists, custom documents, and more. Each training course runs eight hours in length and is performed remotely via screen sharing technology. This course is limited to a maximum of 5 participants.	1	\$ 4,000.00	\$ 4,000.00
e-Commerce Integration	Integration and configuration of a single e-commerce payment gateway allowing for the online payment of fees via credit card and/or e-check. Includes professional configuration of fee formulas and automatic payment milestones. An project manager is assigned to scope out the project and oversee it's successful completion.	1	\$ 7,500.00	\$ 7,500.00
ArcGIS Integration	Integration of ArcGIS over web services allowing the application to auto-suggest addresses and parcels, verify project locations, pull location specific information, and even auto-assign inspectors or reviewers based on project location. An project manager is assigned to scope out the project and oversee it's successful completion. <i>(Waived in recognition of access to County's established service endpoint. No other access to be established).</i>	1	\$ 7,500.00	<i>waived</i>
Total Estimated One Time Costs				\$ 71,500.00

Annual Costs

Product / Service	Description	Qty	Rate	Amount
idtPlans Annual Hosting, Maintenance, and Support	Annual cost for site hosting, maintenance, and support. Includes initial site configuration.	1	\$ 5,000.00	\$ 5,000.00
idtPlans User Licenses	Annual cost for each licensed user accessing the system. Licensed users include all internal and external users requiring permissions greater than that of read only or applicant. Typical roles include Administrators, Permit Techs, Reviewers, Inspectors, and Report Admins. Applicants, read only users, and the general public do not require a paid user license.	6	\$ 1,500.00	\$ 9,000.00
Bluebeam Maintenance	Bluebeam Maintenance is optional and includes free major and minor upgrades plus enhanced phone support for a year. The annual maintenance is renewable as long as the expiration has not lapsed.	6	\$ 99.00	\$ 594.00
e-Commerce Integration Maintenance	Required maintenance package for e-Commerce integrations. Ensures that integrations remain forward compatible upon new product releases and provides priority development assistance in the event of a failure or outage.	1	\$ 1,500.00	\$ 1,500.00
ArcGIS Integration Maintenance	Required maintenance package for ArcGIS integrations. Ensures that integrations remain forward compatible upon new product releases and provides priority development assistance in the event of a failure or outage.	1	\$ 1,500.00	\$ 1,500.00
Total Estimated Annual Costs				\$ 17,594.00

idtPlans Sign Off

Approved: Katy Rucker, PMP
Title: Chief Operating Officer
Signature:

Total Estimated Cost

Initial Purchase Amount / Year 1 \$ 89,094.00
Renewal / Year 2 \$ 17,594.00
Renewal / Year 3 \$ 17,594.00
Total Estimated 3 Year Operating Cost \$ 124,282.00

IDTPLANS MASTER SERVICE AGREEMENT

THIS AGREEMENT which consists of this Service Schedule, Standard Terms and Conditions, and Service Level Agreement (together, this **Agreement**), each of which are incorporated by reference, is entered into on the date below (**Effective Date**) by and between IDT PLANS LLC, an Arizona limited liability company with its principal office located at 9420 E. Golf Links Rd., Suite 108, #296, Tucson, AZ 85730 ("idtPlans"), and the entity identified in this Service Schedule ("**Customer**").

WHEREAS, idtPlans has the right to license rights to access and use the Services (defined below); and

WHEREAS, Customer desires to access and use the Services, all in accordance with the terms and conditions hereof;

NOW, THEREFORE, in consideration of the foregoing, and in reliance on the mutual agreements contained herein, the parties agree as follows:

Service Schedule

Part I – Customer and Basic Services Details

Effective Date	The effective date shall be the same as the date of customer's signature on page 3 of this Service Schedule.	
Customer Details	Town of Thompson's Station 1550 Thompson's Station Rd W, Thompson's Station, TN 37179	
Service Commencement Date		
Initial Term	1 year beginning on the service commencement date	
Payment Frequency	Annually	
Customer Accounts Payable Contact	Name:	Role:
	Telephone:	Email:
Customer Technical Contact to Send Bluebeam License and Keys to (if Applicable)	Name: Tyler Rainey	Role: IT Coordinator
	Telephone: 615-794-4333 x7	Email: trainey@thompsons-station.com
Customer Purchase Order Number		

Part II – Price Plan and Service Description

Price valid until 15th day of April 2021 and subject to acceptance of our standard terms and conditions.

One-Time Configuration/Training Costs (Year 1 Setup)				
	Item	Qty	Cost	Total
	Bluebeam Licenses	6	\$375	\$2,250
	Application Form & Workflow Configuration Bundle (qty 3)	5	\$6,000	\$30,000
	Permit Type Configuration Bundle (qty 5)	3	\$3,750	\$11,250
	Inspection Type Configuration Bundle (qty 5)	3	\$5,000	\$15,000
	Custom Document Template Configuration	1	\$500	\$500
	Standard Training Course (maximum 10 attendees) ¹	1	\$1,000	\$1,000
	Design Build Training Course (maximum 5 attendees) ¹	1	\$4,000	\$4,000
	e-Commerce Integration	1	\$7,500	\$7,500
	ArcGIS Integration	1	\$7,500	<i>Waived ²</i>
			Total:	\$71,500

¹Training performed remotely via screen sharing technology unless otherwise noted.
²Waived in recognition of access to County's established service endpoint. No other access to be established.

Annual Hosting, Maintenance, and Support				
	Item	Qty	Cost	Total
	idtPlans Annual Hosting, Maintenance, and Support	1	\$5,000	\$5,000
	idtPlans User Licenses	6	\$1,500	\$9,000
	Bluebeam Maintenance	6	\$99	\$594
	e-Commerce Integration Maintenance	1	\$1,500	\$1,500
	ArcGIS Integration Maintenance	1	\$1,500	\$1,500
			Total:	\$17,594

Total Operating Cost		
	Total One Time Costs	\$71,500
	Total Annual Costs	\$17,594
	Total Operating Cost (Year 1):	\$89,094

See Standard Terms & Conditions Section 12.3 of this document regarding annual cost increases

Services Description

Services include access to the idtPlans online service accessible through the idtPlans.com website any updates or upgrades to the services which may be generally released by idtPlans to all customers from time to time ("Services"). idtPlans reserves the right to modify the Services from time to time; however, future modifications will not result in a diminution of the functionality or quality of the Services. Certain other new functionality may be offered in the future for an additional fee, and if Customer elects to purchase any of this new functionality it will be deemed to be part of the Services.

Services Specifications

Included in this agreement are the following items:

- idtPlans eGovernment Suite (**up to 6 named users**)
 - idtPlans Citizen Access Portal
 - idtPlans Review
 - idtPlans Permits

- idtPlans Inspections
- e-Commerce integration with maintenance
- GIS integration with maintenance
- Bluebeam licenses with maintenance
- Professional configuration
- Customized training package

Consulting and Training

idtPlans will guide Customer through discovery, development, implementation, and deployment of the idtPlans software, which may include one or more modules offered by idtPlans. Training is provided in a virtual environment via webinar, unless otherwise noted in this document.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed below.

CUSTOMER

By _____
(Signature)

Name _____

Title _____ Date _____

IDT PLANS LLC

By _____
(Signature)

Name _____

Title _____ Date _____

STANDARD TERMS AND CONDITIONS

These Terms and Conditions form a part of the Agreement between idtPlans and the Customer identified on the Service Schedule to which these Terms and Conditions are attached and govern the Customer's use of the idtPlans Services.

1. Definitions

1.1 Services means the web services described and specified on the applicable Service Schedule and any updates or upgrades to such services which may be generally released by idtPlans to all customers from time to time.

1.2 idtPlans Technology means all computer hardware, software and other tangible equipment and intangible computer code necessary to deploy and serve the Services via the Site.

1.3 Site means the idtPlans.com website including the idtPlans Technology.

1.4 Affiliate means with respect to Customer, any parent or subsidiary corporation, and any corporation or other business entity controlling, controlled by or under common control with Customer, which agrees in writing to be bound by all the obligations of Customer hereunder.

1.5 Internet Data Centers means any of the facilities owned or controlled by idtPlans and used by idtPlans to provide the Services. These facilities house the idtPlans Technology used for the provision of Services.

1.6 Customer Data means Customer's information or other data processed, stored, or transmitted by, in or through the Services, including without limitation personal information relating to the Customer's personnel, customers, and prospective customers such that the identity of such persons is apparent or can reasonably be determined from such personal information.

1.8 Proprietary Rights means any and all rights, whether registered or unregistered, in and with respect to patents, copyrights, confidential information, know-how, trade secrets, moral rights, contract or licensing rights, confidential and proprietary information protected under contract or otherwise under law, trade names, domain names, trade dress, logos, animated characters, trademarks, service marks, and other similar rights or interests in intellectual or industrial property.

1.9 Basic User means any named user having permission to submit applications, upload documents, pay fees, view project status, request inspections, and view project related reports and documents. Frequently categorized as applicants, homeowners, citizens, and contractors, these users do not require a paid license.

1.10 Licensed User means any named user having any permission beyond that of a basic user. Frequently categorized as permit coordinators, plan reviewers, inspectors, department supervisors, and system administrators, these users do require a paid license. Named users include Customer's third-party consultants, outsourcers, contractors, and other service providers requiring elevated permissions over that of a Basic User.

1.11 Application Form means any online form filled out by an applicant at the time of submittal through the idtPlans website. This form is customizable and may be developed to match the existing paper forms in use by an organization. Data collected on these forms may be used to auto-fill document templates, email templates, or calculate fees. Application forms are often synonymous with permit applications; however, they could also include public record requests, general inquiries, or other various forms for collecting data etc.

1.12 Workflow means any programmatic representation of the business rules of a projects lifecycle and ties system events to specific actions. Workflow configuration settings allow system administrators to automate routine tasks and define how the system should behave throughout the plan review process for each type of project.

1.13 SLA means the idtPlans Service Level Agreement, which is available at <https://idtplans.com/service-level-agreement>

2. Subscription License Grant

Subject to the terms and conditions hereof, during the term hereof, idtPlans hereby grants to Customer and its Affiliates only to the extent of Licensed Users and solely for Customer's internal business purposes a non-exclusive, non-transferable, worldwide right and license to access the Site and use the Services. All rights not expressly granted to Customer herein are expressly reserved by idtPlans. Customer personnel will indicate agreement by click-through to idtPlans' standard End-User License Agreement ("EULA") in the registration process for access and use of the Services; provided, however, that if there is any conflict or inconsistency between the EULA and this Agreement, the terms and conditions of this Agreement shall control. All rights not expressly granted to Customer herein are expressly reserved by idtPlans.

3. Use Restrictions

Customer covenants and agrees that its use of the Services will be in a manner consistent with this Agreement and with all applicable laws and regulations, including trade secret, copyright, trademark, and export control laws. Without limiting the generality of the foregoing, Customer shall not, nor shall it permit or assist others, (i) to abuse or fraudulently use the Services; (ii) to process or permit to be processed the data of any third party that is not expressly authorized herein to access and use the Services; and (iii) to attempt to copy, reverse-engineer, decompile, disassemble, create a derivative work from, or otherwise attempt to derive the source codes of any part of the idtPlans Technology; or (iv) to access, alter, or destroy any information of any customer of idtPlans by any fraudulent means or device, or attempt to do so.

4. Security

Customer shall be solely responsible for acquiring and maintaining technology and procedures for maintaining the security of its link to the Internet. As part of the Services, idtPlans shall implement reasonable security procedures consistent with industry standards to protect Customer Data from unauthorized access, including without limitation, maintaining a security program with an identified security official, security policies, access controls, firewalls, wireless and mobile device and storage security, virus scanning/protection software, anti-malware software, encryption of data in transport and storage including SSL certificates of 256 bit strength or greater (including backup data), network security intrusion protection systems, technical assessments (which have been acted upon), and Internet Data Centers housed in a secure location in the United States (the "Security Standard"). Provided that idtPlans is in compliance with the Data Security Standard, the parties agree that idtPlans shall not, under any circumstances, be held responsible or liable for situations (i) where data or transmissions are accessed by third parties through illegal or illicit means, or (ii) where the data or transmissions are accessed through the exploitation of security gaps, weaknesses, or flaws unknown to idtPlans at the time. idtPlans will promptly report to Customer any unauthorized access to Customer Data promptly upon discovery by idtPlans, and idtPlans will use diligent efforts to promptly remedy any breach of security that permitted such unauthorized access. In the event notification to persons included in such Customer Data is required, Customer shall be solely responsible for any and all such notifications at its expense.

5. Business Continuity Plan/Disaster Recovery Program

idtPlans shall establish and execute a business continuity plan that provides for continued operation in the event of a disaster or business interruption affecting idtPlans. The business continuity plan shall provide that Internet Data Centers be configured consistent with prevailing industry standards for fireproofing, power and backup generation, structural integrity, seismic resistance, and resistance to other natural and man-made disruptions. In addition, Internet Data Centers shall be secured against physical and electronic intrusion in a manner consistent with prevailing industry standards. Force majeure shall not apply.

6. Set-Up of Services

On or before the Service Commencement date specified in the Service Schedule, idtPlans will complete all tasks required to make the Services accessible to Customer, including (i) implementing in the idtPlans Technology any interfaces required in the applicable Service Schedule, (ii) delivering to Customer any proprietary software and related documentation necessary to access the idtPlans Technology to access and use the Services, (iii) assigning all security access, passwords and user IDs necessary to access the idtPlans Technology to access and use the Services, and (iv) preparing data that may be specified on the applicable Service Schedule for use with the Services.

7. Access Codes for Services

idtPlans will permit access to the Services only over the Internet using access codes assigned by idtPlans. Access codes will be deemed the Confidential Information of both parties.

8. Technical Requirements for Services

8.1 Capacities

The Services shall be rendered in a manner that will support the Licensed User requirements and other requirements provided in the applicable Service Schedule.

8.2 Scalability

The Services shall be scalable in a manner that allows the Services to meet any forecasted increase provided in the applicable Service Schedule. Customer acknowledges that increasing the Licensed User requirements and/or data storage requirements may lead to increases in the fees charged for the Services.

8.3 Internet Data Centers

The Services will be provided through Internet Data Centers that are configured consistent with prevailing industry standards for fireproofing, power and backup generation, structural integrity, seismic resistance, and resistance to other natural and man-made disruptions. In addition, the facility shall be secured against physical and electronic intrusion in a manner consistent with prevailing industry standards. idtPlans may outsource its Internet Data Center operations to subcontractors; provided, however, that idtPlans shall be responsible for the performance of such subcontractors, and idtPlans shall be liable for any action or inaction by such subcontractors as if performed by idtPlans.

8.4 Multiple Telecommunications Providers

Unless otherwise specified in the applicable Service Schedule, the facility shall be served by no less than two separate high-speed telecommunications providers and idtPlans shall have the ability to switch between telecommunications providers to reduce outages.

9. Backups

At no additional charge to Customer, idtPlans shall make daily incremental backups (the "Incremental Backup") and weekly full backups (the "Full Backups") of Customer Data archived with the idtPlans Technology. The prior day incremental backup and a copy of the weekly backup shall be stored off-site in a secure facility designed to store and maintain backups for emergency use. Upon storage of a weekly backup in the off-site facility, the prior weekly backup shall be made available to Customer by electronic delivery.

10. Monitoring of Customer's Use

idtPlans reserves the right to internally monitor Customer's usage of the Site and Services.

11. Special Requirements

11.1 Operational Requirements

Customer shall be solely responsible for installation and maintenance of a supported web browser in order to access the system. Supported browsers include Internet Explorer (Current version -1) and current versions of Google Chrome, Mozilla Firefox, and Safari. Browsers must be capable of TLS 1.2 encryption or higher.

11.2 Customer's Requirements

Customer shall be solely responsible for providing the following materials at its cost and expense: all Internet access, hardware, browsers, and other software necessary to access and login to the Site.

12. Fees

12.1 Annual Renewal Fees and Payment Terms

Annual renewal fees are payable within thirty (30) days of receipt of invoice with the first payment to be received by idtPlans no later than the Service Commencement Date. If Customer exceeds the licensed limits of their contract, idtPlans reserves the right to renegotiate pricing terms on subsequent years based on published pricing.

12.2 Hourly Rates

Work that falls outside of the agreed upon project scope will be subject to an hourly rate. All work falling outside of project scope will be handled via a quote and/or change order document. Costs associated with professional

service hours can be found on the idtPlans Price Sheet (issued annually in July). Please contact your idtPlans Account Manager for a copy of this document.

12.3 Fee Increases

Website operator may increase periodic annual renewal fees at any time after the initial agreed upon term with sixty (60) days prior notice to Customer, but in no event shall fees be increased more than 10% over the preceding consecutive twelve (12) month period.

12.4 Late Charges

If Customer does not make timely payment to website operator of any amount payable hereunder, in addition to the remedies available to website operator at law or equity, website operator may collect interest on the sum then owing at the rate of 1.5% per month from the due date until payment by Customer; provided, however, that in no event shall the aggregate interest charges exceed the maximum rate of interest which could be charged under applicable law.

12.5 Overdue Payments

Customer acknowledges that continued access to the idtPlans service is contingent upon timely payment of annual renewal fees. If any amount owing by Customer under this Agreement for any services is thirty (30) or more days overdue, idtPlans reserves the right to suspend access to the application and/or any professional services until payment is made in full. idtPlans may also terminate this agreement if payments are not resolved within forty-five (45) days of becoming overdue.

13. Purchase of Additional Services

Customer may elect to purchase rights for additional Licensed Users and/or additional services by Purchase Order from time to time. Such additional purchases shall be governed by the terms and conditions hereof. Customer agrees that, absent idtPlans express written acceptance thereof, the terms and conditions contained in any Service Schedule or other document issued by Customer to idtPlans for the additional purchases, shall not be binding on idtPlans to the extent that such terms and conditions are additional to or inconsistent with those contained in this Agreement.

14. Technical Support, Training, and Consulting Services

During the term hereof, idtPlans shall provide technical support in the form of responses to questions by email or telephone at no additional charge. If additional services are required for the proper use and operation of the Services or if training or consulting services are requested, idtPlans shall provide such services on a time and materials ("T&M") basis; that is, (i) Customer shall pay idtPlans for all the time spent performing such services (including all travel time), plus materials, taxes, and reimbursable expenses; and (ii) the rates for such services shall be idtPlans then-current standard rates when such services are provided. Any monetary limit stated in an estimate for T&M services shall be an estimate only for Customer's budgeting and idtPlans resource scheduling purposes. If the limit is exceeded, idtPlans will cooperate with Customer to provide continuing services on a T&M basis. idtPlans shall invoice Customer monthly for T&M services. Charges shall be payable upon receipt of invoice by Customer. idtPlans reserves the right to require a non-refundable fee and/or cost deposit prior to commencement of services as well as a work order.

15. Professional Services

Customer may order professional services such as Custom Development from idtPlans by submitting a written request either by email or through an appropriate support channel. If Customer submits an order for professional services, such an order shall not be binding upon idtPlans unless accepted by idtPlans. Once an Order for custom Professional Services has been accepted by idtPlans, the parties will negotiate a mutually acceptable SOW for such custom Professional Services. Each SOW executed by the parties for custom Professional Services shall be subject to these Terms. Any terms and conditions added or appended by Customer to any Order submitted for Professional Services that are in addition to or inconsistent with these Terms will be deemed stricken from such Order and will not be binding on idtPlans. Unless noted otherwise on the SOW, orders less than or equal to \$2,500 in value, payment shall be due in full prior to commencement of work. Orders exceeding \$2,500 in value shall be subject to a non-refundable deposit of fifty percent (50%) of the total fees due prior to commencement of work with the remaining fifty percent (50%) due upon completion. Purchased Professional Services (including training) are non-refundable, and any unused Professional Services (including training) will expire twenty-four (24) months from the date of purchase.

15.1 Services Deliverable

All project deliverables will adhere to generally accepted practices of both Software Development Standards as well as Construction and Code Review Best Practices. Based upon specific goals outlined by the Customer, acceptance of the deliverables outlined in the agreed upon scope (provided in the Project Plan Definition and signed off by both idtPlans and Customer) would be considered a successful deployment of a fully functional, fully hosted EPR platform for use by Customer.

15.2 Project Schedules

Project schedules are provided as a guiding document as part of the Project Plan Definition and project tracking protocol. Schedules are subject to change without notice in the event of delayed information acquisition, testing delays, or modifications to scope (change orders).

16. Service Levels

16.1 idtPlans will provide the idtPlans Services in accordance with the service levels set out in the SLA. In the event that idtPlans fails to attain the requisite Monthly Uptime Percentage as provide for in the SLA, idtPlans will issue Service Credits to the Customer in accordance with the SLA, which Service Credits will be the sole remedy available for idtPlans failure to meet the SLA.

16.2 Any service Credits are subject to the exclusions and limitations listed in the SLA.

16.3 The idtPlans Services are not intended to support or carry emergency or time-critical emails or communications to any providers of emergency services, and idtPlans accepts no liability in respect of such emergency communications. idtPlans recommends that the Customer maintains adequate backup-copies of any content uploaded to the idtPlans Services and exercise caution in uploading content of a confidential nature.

17. Technical Contacts

Customer shall designate one of its employees as its principal contact for communicating with idtPlans regarding technical issues hereunder. Customer may change its technical contact from time to time by written notice to idtPlans.

18. Proprietary Rights Ownership

Ownership of the Proprietary Rights embodied in the Site, Services, and idtPlans Technology shall remain exclusively vested in and be the sole and exclusive property of idtPlans and its licensors. In addition, Customer hereby transfers and assigns to idtPlans any rights Customer may have to any suggestions, ideas, enhancement requests, feedback, recommendations, or other information provided by Customer personnel relating to the Service. The idtPlans.com domain name, product names and logos associated with the Services are trademarks of idtPlans or third parties.

19. Customer Reference

Customer hereby grants to idtPlans the express right to use Customer's entity name and logo in marketing, sales, financial, and public relations materials, and other communications solely to identify Customer as an idtPlans customer. idtPlans hereby grants to Customer the express right to use idtPlans logo solely to identify idtPlans as a provider of services to Customer. Other than as expressly stated herein, neither party shall use the other party's marks, codes, drawings, or specifications without the prior written permission of the other party.

20. Mutual Exchange of Confidential Information

The parties anticipate that each may disclose confidential information to the other. Accordingly, the parties desire to establish in this Section terms governing the use and protection of certain information one party ("Owner") may disclose to the other party ("Recipient").

20.1 Definition of Confidential Information

For purposes hereof, "Confidential Information" means (i) the terms and conditions hereof, (i) non-public aspects of idtPlans Site and the operation thereof, idtPlans Technology, and the Services and additional services provided by idtPlans, and idtPlans business and technical information, and data, (iii) Customer Data, and non-public aspects of Customer's technology, computer programs, and business and technical information, and data. In addition, Confidential Information includes information which, although not related to the Services or this Agreement, is nevertheless disclosed hereunder, and which, in any case, is disclosed by an Owner or its affiliate to Recipient in

document or other tangible form bearing an appropriate legend indicating its confidential or proprietary nature, or which, if initially disclosed orally or visually is identified as confidential at the time of disclosure and a written summary hereof, also marked with such a legend, is provided to Recipient within fifteen (15) days of the initial disclosure.

20.2 Restrictions on Use and Disclosure

Recipient may use Confidential Information of Owner only for the purposes of this Agreement and shall protect such Confidential Information from disclosure to others, using the same degree of care used to protect its own proprietary information of like importance, but in any case, using no less than a reasonable degree of care. Recipient may disclose Confidential Information received hereunder only as reasonably required to perform its obligations under this Agreement and only to its employees who have a need to know for such purposes and who are bound by signed, written agreements to protect the received Confidential Information from unauthorized use and disclosure.

20.3 Exclusions

The restrictions of this Agreement on use and disclosure of Confidential Information shall not apply to information that: (i) is in the possession or control of Recipient at the time of its disclosure hereunder; (ii) is, or becomes publicly known, through no wrongful act of Recipient; (iii) is received by Recipient from a third party free to disclose it without obligation to Owner, (iv) is independently developed by a party as evidenced by its written and dated records and without any breach of this Agreement; or (v) is the subject of a written permission to disclose provided by Owner. The Recipient may disclose Confidential Information of Owner pursuant to the requirements of a governmental agency or by operation of law, provided that such Recipient gives Owner written notice thereof as soon as practicable and reasonably cooperates with Owner to contest such disclosure.

20.4 Limitation of Liability for Data Security Breach

The provisions of this Section are subject to the limitation on idtPlans liability set forth in the Section titled "Security", but only to the extent that a breach of this Section results from an unauthorized third party using illicit means to access the Services or idtPlans Technology. A breach of this Section that results from access to the Services or our Technology by our current or former personnel or any of our subcontractors or providers, shall not be subject to the limitation on idtPlans liability set forth in the Section titled "Security".

21. General Skills and Knowledge

Notwithstanding anything to the contrary in this Agreement, Customer agrees that idtPlans is not prohibited from utilizing any skills or knowledge of a general nature acquired during the course of providing the Services, including information publicly known or available or that could reasonably be acquired in similar work performed for another customer of idtPlans.

22. Customer Representations and Warranties.

22.1 Customer represents and warrants that (i) the performance of its obligations and use of the Services (by Customer and its Licensed Users) will not violate any applicable laws, or regulations, including without limitation any and all laws and regulations regarding the transfer of personal information of residents of the European Union outside the European Union, or (ii) cause a breach of any agreements with any third parties or unreasonably interfere with the use by other idtPlans customers of idtPlans services.

22.2 Customer acknowledges that (i) idtPlans does not monitor the content of the information passing through the Services for purposes of verifying accuracy or legal compliance, and (ii) Customer will use commercially reasonable efforts to ensure that the information it and its Licensed Users transmit thereby complies with all applicable laws and regulations, whether now in existence or hereafter enacted and in force.

22.3 In the event of any breach by Customer of any of the foregoing representations or warranties, in addition to any other remedies available at law or in equity, idtPlans will have the right to suspend immediately any Services if deemed reasonably necessary by idtPlans to prevent any harm to idtPlans and its business. idtPlans will provide notice to Customer and an opportunity to cure, if practicable, depending on the nature of the breach. Once cured, idtPlans will promptly restore the Services.

23. idtPlans Representations and Warranties

idtPlans represents and warrants that (i) it has the legal right to enter into this Agreement and perform its obligations hereunder, and (ii) the performance of its obligations and delivery of the Services to Customer will not violate any applicable laws or regulations of the United States or cause a breach of any agreements between idtPlans and any third parties. In the event of a breach by idtPlans of the foregoing warranties, Customer's sole remedy is termination of this Agreement upon written notice to idtPlans.

24. Limited Warranty

idtPlans represents and warrants that the Services will: (i) conform to all material operational features as described in the applicable Service Schedule, and (ii) be free of errors and defects that materially affect the performance of such features ("Limited Warranty"), provided that Customer notifies idtPlans of any non-conformity, error, or defect. Customer's sole and exclusive remedy for breach of this Limited Warranty shall be the prompt correction of non-conforming Services at idtPlans expense.

25. Warranty Disclaimers

EXCEPT FOR THE LIMITED WARRANTY PROVIDED ABOVE, NEITHER IDTPLANS NOR ANY OF ITS SUPPLIERS OR RESELLERS MAKES ANY WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, AND IDTPLANS AND ITS SUPPLIERS SPECIFICALLY DISCLAIM THE IMPLIED WARRANTIES OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SYSTEM INTEGRATION, AND DATA ACCURACY. SOME STATES DO NOT ALLOW DISCLAIMERS OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATION MAY NOT APPLY. CUSTOMER ACKNOWLEDGES THAT NO REPRESENTATIONS OTHER THAN THOSE CONTAINED IN THIS AGREEMENT HAVE BEEN MADE RESPECTING THE SERVICE, AND THAT CUSTOMER HAS NOT RELIED ON ANY REPRESENTATION NOT EXPRESSLY SET OUT IN THIS AGREEMENT. IDTPLANS DOES NOT WARRANT THAT THE SERVICE OR SITE WILL MEET CUSTOMER'S REQUIREMENTS, THAT THE SERVICE OR SITE WILL OPERATE IN THE COMBINATIONS WHICH CUSTOMER MAY SELECT FOR USE, OR THAT THE OPERATION OF THE SERVICES OR SITE WILL BE UNINTERRUPTED, OR ERROR-FREE. WE DO NOT WARRANT THAT THE SERVICES WILL BE UNINTERRUPTED, ERROR-FREE, OR 100% SECURE. FURTHER, CUSTOMER ACKNOWLEDGES AND AGREES THAT THAT IDTPLANS HAS NO CONTROL OVER THE INTERNET, AND THAT IDTPLANS IS NOT LIABLE FOR THE DISCONTINUANCE OF OPERATION OF ANY PORTION OF THE INTERNET OR POSSIBLE REGULATION OF THE INTERNET WHICH MIGHT RESTRICT OR PROHIBIT THE OPERATION OF THE SERVICES.

26. Disclaimer of Actions of Third Parties

idtPlans does not and cannot control the flow of data to or from idtPlans Technology and other portions of the Internet. Such flow of data depends on the performance of Internet services provided or controlled by third parties. At times, actions, or inactions of such third parties can impair or disrupt customer's connections to the Internet (or portions thereof). Although idtPlans will use commercially reasonable efforts to take all actions it deems appropriate to remedy and avoid such events, idtPlans cannot guarantee that such events will not occur. IDTPLANS DISCLAIMS ANY AND ALL LIABILITY RESULTING FROM OR RELATED TO THE PERFORMANCE OR NON-PERFORMANCE OF INTERNET SERVICES PROVIDED OR CONTROLLED BY THIRD PARTIES WHICH ARE NOT IdtPlans SUBCONTRACTORS.

27. Intellectual Property Indemnity

Except for third party software including without limitation open source software, idtPlans will indemnify, defend and hold harmless Customer and its Affiliates from and against any lawsuit, liabilities, loss, cost or expense arising out of a third-party claim made against Customer that the idtPlans Technology or Services infringe on any U.S. intellectual property right of a third party; provided, however, that idtPlans is notified in writing of such claim promptly after such claim is made upon Customer. idtPlans shall have the right to control any defense of the claim. In no event shall Customer settle any such claim without idtPlans prior written approval. idtPlans shall have no liability or obligation if the claim arises from (i) any alteration or modification to the idtPlans Technology or Services other than by idtPlans, (ii) any combination of the idtPlans Technology or Services by Customer with other programs or data not furnished by idtPlans, or (iii) any use by Customer of the idtPlans Technology or Services that is prohibited by this Agreement or otherwise outside the scope of use for which the idtPlans Technology or Services are intended.

28. Options for Infringement Claims

If any party is enjoined from using the idtPlans Technology, or if idtPlans believes that the idtPlans Technology may become the subject of a claim of intellectual property infringement, idtPlans, at its option and expense, may: (i) procure the right for Customer to continue to use the Services; (ii) replace or modify the idtPlans Technology so as to make it non-infringing;

provided, however, that the Services continue to conform to the descriptions and/or specifications provided in the applicable Service Schedule; or (iii) terminate this Agreement, in which case idtPlans shall refund to Customer any and all subscription fees paid in advance by Customer for those Services not provided by idtPlans and provide, at Customer's request and free of charge, the Customer Data in a database document format. This Section and the preceding Section sets forth the entire liability of idtPlans to Customer for any infringement by the idtPlans Technology or Services of any intellectual property right of any third party. Notwithstanding the foregoing, this Section does not apply to third party software including without limitation open-source software.

29. Disclaimer of Incidental and Consequential Damages

EXCEPT FOR INDEMNITY OBLIGATIONS EXPRESSLY PROVIDED HEREIN AND ANY VIOLATION OF CONFIDENTIALITY OBLIGATIONS, IN NO EVENT SHALL EITHER PARTY AND/OR ITS LICENSORS BE LIABLE TO ANYONE FOR ANY INDIRECT, PUNITIVE, SPECIAL, EXEMPLARY, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING LOSS OF DATA AND/OR UNAUTHORIZED ACCESS OR ACQUISITION OF DATA, REVENUE, PROFITS, USE OR OTHER ECONOMIC ADVANTAGE) ARISING OUT OF, OR IN ANY WAY CONNECTED WITH THE SERVICES, INCLUDING WITHOUT LIMITATION THE USE OR INABILITY TO USE THE SERVICES, OR FOR ANY CONTENT OBTAINED FROM OR THROUGH THE SERVICES OR THIS SITE, ANY INTERRUPTION, INACCURACY, ERROR OR OMISSION, REGARDLESS OF CAUSE, EVEN IF THE PARTY FROM WHICH DAMAGES ARE BEING SOUGHT OR SUCH PARTY'S LICENSORS HAVE BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

30. Liability Cap

Except for idtPlans indemnity expressly provided herein and idtPlans confidentiality obligations, idtPlans aggregate liability, if any, including liability arising out of contract, negligence, strict liability in tort or warranty, or otherwise, shall not exceed 25% of annual renewal fees payable by Customer for the one (1) billing period immediately preceding the claim for such liability.

31. Insurance Requirements

idtPlans agrees to keep in full force and effect during the term of this Agreement: (i) comprehensive general liability insurance in an amount not less than One Million Dollars (\$1 million) per occurrence for bodily injury and property damage, (ii) Automobile liability insurance properly safeguarding Contractor against liabilities for death, personal injury, and property damage arising out of the use of hired, non-owned automobiles in the aggregate amount of (\$1 million) and (iii) workers' compensation insurance in an amount not less than that required by applicable law. idtPlans will cause its insurance provider(s) to name Customer as an additional insured and, upon request by Customer, deliver to Customer certificates of insurance which evidence the minimum levels of insurance set forth above and notify Customer in writing of the effective date thereof.

32. Term of Agreement

The initial term of this Agreement shall commence as of the Effective Date hereof and shall continue as described in the Service Schedule. The initial term hereof shall automatically renew for successive one (1) year terms unless either party notifies the other in writing not less than sixty (60) days prior to the expiration of the current term of its intention not to renew. Both the initial term and any renewal term are subject to earlier termination as otherwise provided herein. Either party may choose not to renew this Agreement without cause for any reason.

33. Automatic Termination

Unless idtPlans promptly after discovery of the relevant facts notifies Customer to the contrary in writing, this Agreement and all Service Schedules will terminate immediately without notice upon the institution of insolvency, bankruptcy, or similar proceedings by or against idtPlans, any assignment or attempted assignment by idtPlans for the benefit of creditors, or any appointment, or application for such appointment, of a receiver for idtPlans.

34. Termination For Cause

If either party fails to comply with any of the material terms and conditions of this Agreement or Service Schedule, including without limitation the payment of any subscription license fee or reimbursement due and payable to idtPlans under this Agreement, the non-defaulting party may terminate this Agreement and/or any or all Service Schedules and any and all license rights upon fifteen (15) days' written notice to the defaulting party specifying any such breach, unless within the period of such notice, all breaches specified therein shall have been remedied.

35. Termination by idtPlans for End of Life

idtPlans intends to continue to provide and support the Services for so long as Customer renews in accordance with the applicable Service Schedule; provided, however, if, idtPlans determines in its sole discretion that it is no longer feasible to support the Services, idtPlans may terminate this Agreement for end of life at any time by providing one hundred eighty (180) days written notice to Customer.

36. Return of Materials

Within ten (10) days of the expiration or termination of any license under any Service Schedule, Customer shall return to idtPlans any materials provided by idtPlans.

37. Transition Services

If Customer is current in all payments due to idtPlans at the time of expiration or termination hereof, idtPlans shall provide to Customer its Customer Data in a standard database document format readily available to idtPlans at no additional charge. If Customer requests the Customer Data in a non-standard format, Customer shall pay to idtPlans a reasonable fee for technical services as determined by idtPlans.

38. Notices

Any notice or communication required or permitted to be given hereunder may be delivered by hand, deposited with an overnight courier, sent by email or facsimile (provided delivery is confirmed), or U.S. Mail (registered or certified only), return receipt requested, in each case to the address set forth on the initial page hereof or at such other addresses as shall be designated in writing by either party to the other in accordance with this Section. Such notice will be deemed to be given when received.

39. Continuing Obligations

The following obligations shall survive the expiration or termination hereof and the distribution grace period provided above: (i) any and all warranty disclaimers, limitations of liability and indemnities granted by either party herein, (iv) any covenant granted herein for the purpose of determining ownership of, or protecting, the Proprietary Rights, including without limitation, the Confidential Information of either party, or any remedy for breach thereof, and (v) the payment of taxes, duties, or any money to idtPlans hereunder.

40. U.S. Government End-Users

idtPlans Technology and the idtPlans software incorporated therein, this Site, and the Services all consist of "commercial items," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government end users of this site acquire only those rights set forth herein.

41. Miscellaneous

This Agreement will be governed by and construed in accordance with the laws of Customer's state of domicile. This Agreement may be modified only by a written agreement signed by the parties. The failure of either party to enforce at any time any of the provisions hereof shall not be a waiver of such provision, or any other provision, or of the right of such party thereafter to enforce any provision hereof. If any provision of this Agreement is declared invalid or unenforceable, such provision shall be deemed modified to the extent necessary and possible to render it valid and enforceable. In any event, the unenforceability or invalidity of any provision shall not affect any other provision of this Agreement, and this Agreement shall continue in full force and effect, and be construed and enforced, as if such provision had not been included, or had been modified as above provided, as the case may be.

Acknowledgement of Transfer, Assignment and Assumption of Phase 16 (B) of the Tollgate Village Development from MBSC TN Homebuilder, LLC to Phillips Builders, LLC and Confirmation of Entity Ownership and Responsibility for Phase 16 (B)

The undersigned parties, Phillips Builders, LLC, a Tennessee limited liability company, MBSC TN Homebuilder, LLC, a Tennessee limited liability company and the Town of Thompson's Station do hereinafter make and state as follows:

Whereas, MBSC TN Homebuilder, LLC, a Tennessee limited liability company, is the developer of Phase 16, including Phase 16 (B), of the Tollgate Village Development as delineated in the *Subdivision Development Agreement* (attached hereto as Exhibit 1) entered on the 9th day of May, 2017 with the Town of Thompson's Station, Tennessee;

Whereas, Phase 16 (B) of the Tollgate Village Development, being developed by MBSC TN Homebuilder, LLC, has been transferred, assigned and assumed by Phillips Builders, LLC, a Tennessee limited liability company;

Whereas, Phillips Builders, LLC, a Tennessee limited liability company, does acknowledge there are no wastewater taps assigned to Phase 16 (B) by the Town of Thompson's Station and that no wastewater taps are involved in the transfer, assignment and assumption of Phase 16 (B) of the Tollgate Village Development from MBSC TN Homebuilder, LLC to Phillips Builders, LLC.

Whereas, Phase 16 (B) of the Tollgate Village Development is now owned and to be developed by Phillips Builders, LLC, a Tennessee liability company;

Whereas, MBSC TN Homebuilder, LLC is under a *Subdivision Development Agreement* for the entire Phase 16 of Town of Thompson's Station dated May 9, 2017, attached hereto and incorporated herein as Exhibit 1;

Whereas, Phillips Builders, LLC does acknowledge the transfer, assignment and assumption of the obligations and responsibility of MBSC TN Homebuilder, LLC, in its place and stead, as it relates to Phase 16 (B) of the Tollgate Village Development, namely the obligations and responsibilities as to the *Subdivision Development Agreement* with the Town of Thompson's Station dated May 9, 2017, a copy of which is attached hereto as Exhibit 1, but only as to Phase 16 (B).

Whereas, the Parties acknowledge and understand that certain public infrastructure improvements, including, but not limited to, roads, appropriate drainage and erosion controls with associated performance and maintenance sureties, located within Sections 3 and 14 (A) of the Tollgate Village Development have not been dedicated to the Town by MBSC TN Homebuilders, LLC. As such, said sections are currently under the control of the developer, MBSC TN Homebuilders, LLC. Access to Section 16 (B) necessarily requires crossing over the public infrastructure located within Sections 3 and 14 (A). The Parties acknowledge and understand that



until Sections 3 and 14 (A) are fully dedicated to the Town and applicable sureties released, full and final dedication of 16(B) will not be approved by the Town.

Whereas, the Town of Thompson's Station does acknowledge the transfer and assignment by MBSC TN Homebuilder, LLC and the assumption by Phillips Builders, LLC of Phase 16 (B) of the Tollgate Village Development;

Now, therefore, the undersigned do acknowledge and confirm the recitals as set forth hereinafter as follows:

That MBSC TN Homebuilder, LLC has transferred and assigned and Phillips Builders, LLC has assumed all rights, obligations and responsibilities of Phase 16 (B) of the Tollgate Village Development to the Town of Thompson's Station, Tennessee;

That Phillips Builders, LLC, does acknowledge the transfer, assignment and assumption of Phase 16 (B) from MBSC TN Homebuilder, LLC to include, but not limited to, the obligations and responsibilities to the Town of Thompson's Station as the obligations and responsibilities relate to Phase 16 (B) only under the *Subdivision Development Agreement* with the Town of Thompson's Station dated May 9, 2017, which is attached hereto as Exhibit 1. MBSC TN Homebuilder, LLC shall continue to have the obligations and responsibilities of Developer under the *Subdivision Development Agreement* for all property within Phase 16 of the Tollgate Village development other than Phase 16 (B). Such other obligations and responsibilities are not assumed by Phillips Builders, LLC.

That the Town of Thompson does acknowledge the transfer, assignment and assumption of 16 (B) of the Tollgate Village Development by Phillips Builders, LLC from MBSC TN Homebuilder, LLC.

That Phillips Builders, LLC, their heirs and assigns shall have the obligation of timely notice to the Town of Thompson's Station at the time of any future transfer or assignment of ownership of Phase 16 (B) of the Tollgate Village Development within the Town of Thompson's Station.

This document entered on the _____ day of _____, 2021.

THE TOWN OF THOMPSON'S STATION

By: _____

Name: Corey Napier MAYOR

MBSC TN HOMEBUILDER, LLC

By: _____

Name: Brian Rowe

Authorized Officer

PHILLIPS BUILDERS, LLC

By: _____

Name: Jason Phillips

Authorized Agent/Officer

SUBDIVISION DEVELOPMENT AGREEMENT

This Agreement is entered into on this 9th day of May 2017, between the Town of Thompson's Station, Tennessee (the "Town"), and MBSC, LLC (the "Developer").

WITNESSETH:

WHEREAS, the Developer intends to develop phase 16 in the Tollgate Village with 105 single-family lots, six open space lots and removal of eight (8) trees; and

WHEREAS, the plat of said subdivision received approval for a preliminary plat for the creation of Phase 16 of the Tollgate Village development from the Thompson's Station Municipal Planning Commission (the "Planning Commission"), pursuant to the laws of the State of Tennessee and the Subdivision Regulations of the Town:

NOW, THEREFORE, in consideration of the premises and mutual covenants of the parties herein contained, it is agreed and understood as follows:

SECTION 1. Construction of Subdivisions

The Developer shall construct all required improvements and complete its subdivision in accordance with the Town's Land Development Ordinance, the approved construction plans, and the final subdivision plats approved by the Planning Commission. Required improvements include all streets, storm drainage systems, storm water detention and retention structures, water systems, fire hydrants, sanitary sewer, street lights, all other utilities, curb and gutter, sidewalks, lot and subdivision corner monuments, street name signs, traffic control signs and devices, fences, and any required off-site improvements.

SECTION 2. Surety

Prior to the recording of the final subdivision plat, the Developer shall post a surety in the amount recommended by the Town Engineer and approved by the Planning Commission, this amount being 10% greater than the estimated amount necessary to complete required improvements, including roads, sidewalks, drainage, and other improvements specified by the plans and plats of the development approved by the Town and the Planning Commission. The surety may be called for failure to comply with the provisions of this Agreement in whole or in part according to the terms of the surety. The surety will not be released until there has been full compliance with this Agreement and certification by a licensed engineer that the development has been completed in full compliance with the approved plat and construction plans.

SECTION 3. Interpretation, venue, attorney's fees

This agreement shall bind the Developer upon execution and may not be revoked without permission of the Town. This agreement shall be interpreted in accordance with Tennessee law and may only be enforced in the Circuit Court for Williamson County, Tennessee, and Tennessee appellate courts. In the event this Agreement is breached by the Developer and litigation is commenced, the Developer shall be responsible for the reasonable attorney's fees and expenses incurred by the Town as a result of the Developer's breach.

SECTION 4. Transferability

Except for the sale of individual lots after recording the final plat, the Developer shall not transfer the subdivision property without first giving notice to the Town as to the name, address, and telephone number of the transferee. If it is the transferee's intention to develop this subdivision in accordance with the Agreement, the Developer agrees to provide the Town an Assumption Agreement in which the transferee agrees to perform the improvements required under this Agreement and to provide the security needed to assure such performance. Said agreement will be subject to the approval of the Town

Attorney. The Developer shall remain liable under the terms of this Agreement unless an Assumption Agreement is entered into between the new owners and the Town.

SECTION 5. Acceptance of Improvements

Formal acceptance of improvements shall follow the procedure established in the Subdivision Regulations. Subsequent to acceptance by the Town, the Developer shall have no claim, direct or implied, in the title or ownership of the improvements. The Town, upon final approval and acceptance, will take full title to the improvements and will provide maintenance thereafter, except that the Developer is responsible for construction failures and defects in the subdivision improvements for a period of one (1) year after the date of final acceptance of the subdivision improvements. During this period, it shall remain the responsibility of the Developer to correct and cure these defects and failures.

SECTION 6. Warranty

The Developer warrants that all improvements to be accepted by the Town will be free from defects in design, materials, or workmanship for a period of one (1) year from the date of acceptance by the Town. The Developer shall immediately repair, at its own costs, all defects of any type whatsoever which occur within said one (1) year period. If repairs required herein are not timely completed, the Town shall have the right, at its option, to make said repairs at the expense of the Developer. In such event, the Town may call the Developer's surety to pay for said repairs. Additionally, the Developer shall execute a maintenance surety as required by the Subdivision Regulations.

SECTION 7. Special Provisions

Per the approval of the Phase 16 final plat the following conditions apply:

1. Prior to the approval of construction plans, a development agreement shall be approved and executed between the Town and the Developer
2. Prior to the approval of construction plans, all sureties for each phase/section in Tollgate Village and for the installation of the traffic signal shall be posted and submitted to the Town in accordance with the requirements with the Land Development Ordinance.
3. All recommendations for traffic mitigation shall be completed in accordance with the phasing/timing set forth within the traffic study dated February 28, 2017.
4. Prior to the submittal of the final plat for phase 16, all sewer improvements must be completed to the satisfaction of the Town.
5. The construction route adjacent to Tollgate Boulevard, north of Phase 14 shall be utilized by all construction traffic.
6. All tree replacement shall be revised to include trees 18 inches or greater as specified by the Land Development Ordinance subject to review and approval to the satisfaction of the Town.

IN WITNESS WHEREOF, the parties have executed this Agreement for the purposes herein expressed.



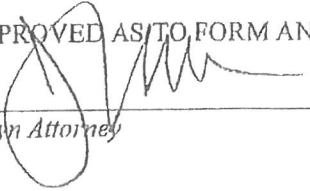
Developer

TOWN OF THOMPSON'S STATION, TENNESSEE



Mayor

APPROVED AS TO FORM AND LEGALITY:



Town Attorney

Acknowledgement of Transfer, Assignment and Assumption of Phase 16 (B) of the Tollgate Village Development from MBSC TN Homebuilder, LLC to Phillips Builders, LLC and Confirmation of Entity Ownership and Responsibility for Phase 16 (B)

The undersigned parties, Phillips Builders, LLC, a Tennessee limited liability company, MBSC TN Homebuilder, LLC, a Tennessee limited liability company and the Town of Thompson's Station do hereinafter make and state as follows:

Whereas, MBSC TN Homebuilder, LLC, a Tennessee limited liability company, is the developer of Phase 16, including Phase 16 (B), of the Tollgate Village Development as delineated in the *Subdivision Development Agreement* (attached hereto as Exhibit 1) entered on the 9th day of May, 2017 with the Town of Thompson's Station, Tennessee;

Whereas, Phase 16 (B) of the Tollgate Village Development, being developed by MBSC TN Homebuilder, LLC, has been transferred, assigned and assumed by Phillips Builders, LLC, a Tennessee limited liability company;

Whereas, Phillips Builders, LLC, a Tennessee limited liability company, does acknowledge there are no wastewater taps assigned to Phase 16 (B) by the Town of Thompson's Station and that no wastewater taps are involved in the transfer, assignment and assumption of Phase 16 (B) of the Tollgate Village Development from MBSC TN Homebuilder, LLC to Phillips Builders, LLC.

Whereas, Phase 16 (B) of the Tollgate Village Development is now owned and to be developed by Phillips Builders, LLC, a Tennessee liability company;

Whereas, MBSC TN Homebuilder, LLC is under a *Subdivision Development Agreement* for the entire Phase 16 of Town of Thompson's Station dated May 9, 2017, attached hereto and incorporated herein as Exhibit 1;

Whereas, Phillips Builders, LLC does acknowledge the transfer, assignment and assumption of the obligations and responsibility of MBSC TN Homebuilder, LLC, in its place and stead, as it relates to Phase 16 (B) of the Tollgate Village Development, namely the obligations and responsibilities as to the *Subdivision Development Agreement* with the Town of Thompson's Station dated May 9, 2017, a copy of which is attached hereto as Exhibit 1, but only as to Phase 16 (B).

Whereas, the Parties acknowledge and understand that certain public infrastructure improvements, including, but not limited to, roads, appropriate drainage and erosion controls with associated performance and maintenance sureties, located within Sections 3 and 14 (A) of the Tollgate Village Development have not been dedicated to the Town by MBSC TN Homebuilders, LLC. As such, said sections are currently under the control of the developer, MBSC TN Homebuilders, LLC. Access to Section 16 (B) necessarily requires crossing over the public infrastructure located within Sections 3 and 14 (A). The Parties acknowledge and understand that

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until Sections 3 and 14 (A) are fully dedicated to the Town and applicable sureties released, full and final dedication of 16(B) will not be approved by the Town.

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Whereas, the Town of Thompson's Station does acknowledge the transfer and assignment by MBSC TN Homebuilder, LLC and the assumption by Phillips Builders, LLC of Phase 16 (B) of the Tollgate Village Development;

Now, therefore, the undersigned do acknowledge and confirm the recitals as set forth hereinafter as follows:

That MBSC TN Homebuilder, LLC has transferred and assigned and Phillips Builders, LLC has assumed all rights, obligations and responsibilities of Phase 16 (B) of the Tollgate Village Development to the Town of Thompson's Station, Tennessee;

That Phillips Builders, LLC, does acknowledge the transfer, assignment and assumption of Phase 16 (B) from MBSC TN Homebuilder, LLC to include, but not limited to, the obligations and responsibilities to the Town of Thompson's Station as the obligations and responsibilities relate to Phase 16 (B) only under the *Subdivision Development Agreement* with the Town of Thompson's Station dated May 9, 2017, which is attached hereto as Exhibit 1. MBSC TN Homebuilder, LLC shall continue to have the obligations and responsibilities of Developer under the *Subdivision Development Agreement* for all property within Phase 16 of the Tollgate Village development other than Phase 16 (B). Such other obligations and responsibilities are not assumed by Phillips Builders, LLC.

That the Town of Thompson does acknowledge the transfer, assignment and assumption of 16 (B) of the Tollgate Village Development by Phillips Builders, LLC from MBSC TN Homebuilder, LLC.

That Phillips Builders, LLC, their heirs and assigns shall have the obligation of timely notice to the Town of Thompson's Station at the time of any future transfer or assignment of ownership of Phase 16 (B) of the Tollgate Village Development within the Town of Thompson's Station.

This document entered on the _____ day of _____, 2021.

THE TOWN OF THOMPSON'S STATION

By: _____

Name: Corey Napier MAYOR

MBSC TN HOMEBUILDER, LLC

By: _____

Name: Brian Rowe

Authorized Officer

PHILLIPS BUILDERS, LLC

By: _____

Name: Jason Phillips

Authorized Agent/Officer

RESOLUTION NO. 2021-001
A RESOLUTION OF THE TOWN OF THOMPSON'S STATION, TENNESSEE
OF THE ACKNOWLEDGEMENT OF THE TRANSFER, ASSIGNMENT AND
ASSUMPTION RELATED TO SECTION 16 (B) OF THE TOLLGATE VILLAGE
DEVELOPMENT AS TO MBSC TN HOMEBUILDER, LLC, AND PHILLIPS
BUILDERS, LLC AND CONFIRMATION OF ENTITY OWNERSHIP AND
RESPONSIBILITY

WHEREAS, the Town of Thompson's Station (the "Town") became aware of the transfer of Phase 16 (B) of the Tollgate Village Development by MBSC TN Homebuilder, LLC, (the "Developer"), which property was the subject of the agreement as delineated in the *Subdivision Development Agreement* entered on the 9th day of May, 2017, between the Town of Thompson's Station and MBSC, LLC (the "Developer"); and

WHEREAS, the transfer of Phase 16 (B) of the Tollgate Village Development is between the MBSC TN Homebuilder, LLC to Phillips Builders, LLC;

WHEREAS, the Town is of the opinion that such transfer, assignment and assumption by Phillips Builders, LLC needs to be acknowledged by all parties in writing pursuant to the terms of the *Subdivision Development Agreement* and to ensure a continued commitment by Phillips Builders, LLC to the obligations as entered by MBSC TN Homebuilder, LLC for Phase 16 (B) of the Tollgate Village Development with the Town pursuant to the *Subdivision Development Agreement* dated May 9, 2017;

WHEREAS, the Board of Mayor and Aldermen has determined that it is in the best interest of the Town to approve the *Acknowledgement of Transfer, Assignment and Assumption of Phase 16 (B) of the Tollgate Village Development from MBSC TN Homebuilder, LLC by Phillips Builders, LLC and Confirmation of Entity Ownership and Responsibility*, attached hereto and incorporated herein as Exhibit A.

NOW, THEREFORE, BE IT RESOLVED by the Board of Mayor and Aldermen of the Town of Thompson's Station as follows:

That Phase 16 (B) of the Tollgate Village Development being developed by MBSC TN Homebuilder, LLC has been transferred, assigned and assumed by Phillips Builders, LLC, to include all obligations and responsibilities under the *Subdivision Development Agreement* and

That all parties, to include the owners, operators and/or members of Phillips Builders, LLC, MBSC TN Homebuilder, LLC and the Town approve the *Acknowledgement of Transfer, Assignment and Assumption of Phase 16 (B) of the Tollgate Village Development from MBSC TN Homebuilder, LLC by Phillips Builders, LLC and Confirmation of Entity Ownership and Responsibility* attached hereto and incorporated herein as Exhibit A.

The Board of Mayor and Alderman do hereby approve, and the Mayor is authorized to sign the appropriate documents on behalf of the Town.

RESOLVED AND ADOPTED this ____ day of _____ 2021.

Corey Napier, Mayor

ATTEST:

APPROVED AS TO FORM:

Town Recorder

Town Attorney

ORDINANCE NO. 2021-006

AN ORDINANCE OF THE TOWN OF THOMPSON'S STATION, TENNESSEE TO AMEND TITLE 8, CHAPTER 1 OF THE THOMPSON'S STATION'S MUNICIPAL CODE REGARDING BEER

WHEREAS, the need to update certain provisions of Title 8, Chapter 1 of the Municipal Code for the benefit of the citizens of Thompson's Station has become apparent to Town Staff, and

WHEREAS, keeping beer standards in line with modern practices and need of the Town, and

WHEREAS, the Board of Mayor and Aldermen have for their consideration the adoption of an amendment to various portions of Title 8, Chapter 1 as proposed herein to create updated standards for beer, and

WHEREAS, the Board of Mayor and Alderman have further determined that it is in the best interest of the Town to address various provisions of Title 8, Chapter 1; and

NOW, THEREFORE, BE IT ORDAINED by the Board of Mayor and Aldermen of the Town of Thompson's Station, Tennessee, as follows:

Section 1. That the Town of Thompson's Station's Municipal Code, Title 15, Chapter 1 is amended with the language as provided hereinafter.

Section 2. That Title 8, Chapter 1 is amended as follows (with additions in *italics* and deletions in ~~strikethrough~~):

...

8-107. Permit required for engaging in beer business; privilege tax. (1) It shall be unlawful for any person to sell, store for sale, distribute for sale, or manufacture beer without first making application to and obtaining a permit from the beer board. The application shall be made on such form as the board shall prescribe and/or furnish, and pursuant to Tennessee Code Annotated, § 57-5-101(b), and shall be accompanied by a non-refundable application fee of two hundred and fifty dollars (\$250.00). Said fee shall be in the form of a cashier's check *prescribed by the Town Recorder and made* payable to the Town of Thompson's Station, Tennessee. Each applicant must be a person of good moral character and certify that he has read and is familiar with the provisions of this chapter.

...

[delete the entirety of 8-109 and replace with the following]

8-109. Types of permits. Permits issued by the beer board shall consist of five (5) types.

(1) **Manufacturers.** A manufacturer's permit to a manufacturer of beer, for the manufacture, possession, storage, sale, distribution, and transportation of the product of the manufacturer which product may be consumed upon the premises of the manufacturer to the extent permitted by state law of general application.

(2) **Off-premises.** An "off-premises" permit is required for any person, entity, or legal organization engaged in the sale of beer where it is not to be consumed by the purchaser upon or near the premises of the seller.

(3) **On-premises.** An "on-premises" permit is required for any person or legal organization engaged in the sale of beer where it is to be consumed by the purchaser or guests upon the premises of the seller, and provided beer may also be sold in hotel rooms of regularly conducted hotels and in regularly incorporated clubs and lodges upon their obtaining the required permit.

a. Anyone applying for or obtaining an on-premises permit may also sell beer to go so a patron may take beer with him purchased at such place after consuming beer. This will be known as a "joint" permit and shall cost an additional two hundred fifty dollars (\$250.00) at the time the application is made, or at any subsequent time when it is sought to change the type permit.

b. No alcoholic beverage shall be consumed in the parking lot of any establishment possessing an on-premises permit, except that, with prior approval of the beer board, through the application and approval of a special permit, as defined under this ordinance, for special events no longer than three (3) consecutive calendar days, permittees may allow consumption of alcoholic beverages sold by the permittee within an area that is roped off or otherwise separated by a continuous fence or other type of barrier from the remaining portion of their parking lot, both ends of which terminate at the permittee's building, deck, porch, patio, or other such attached structure, and provided further, that such permittee provides for an adequate number of private security personnel, as regulated by the Town of Thompson's Station, to prevent unlawful use or possession of alcoholic beverages and to enhance public safety.

c. All on-premises permit holders are required to serve food and non-alcoholic beverages at all times beer is sold.

(4) **Special events permit.** A "special events" permit is required for any person, entity, or organization engaged in the sale of such beverages where they are to be consumed by the purchaser or his guests upon the premises of the seller, including but not limited to any location the purchaser has rented for the purpose of the special event. The special events permit will be issued for the fee of one hundred dollars (\$100.00), after approval by the Town of Thompson's Station Beer Board. Prior notification must be made in writing thirty (30) days prior to the event, and such notification shall include the organization holding the event and location where the event is to be held, among other information required by the Town Recorder. Each permit will be issued for a specific date and a specific period of time, not to exceed three (3) days unless approved by the

Beer Board. The specific period of time will not contradict any existing state or town ordinances or regulations.

*(5) **Caterer permit.** A "caterer" permit to any person, entity, or legal organization conducting a food and beverage catering business who or which has been previously issued a liquor by the drink certificate, or other similar certificate, from the Tennessee Alcoholic Beverage Commission. The liquor by the drink certificate must be current and not expired or revoked at the time of application for the caterer permit. The caterer permit will be issued for the fee of one hundred dollars (\$100.00), after approval by the Town of Thompson's Station Beer Board.*

...

8-110. Interference with public health, safety, and morals prohibited. No permit authorizing the sale of beer will be issued when such business(es) would cause congestion of traffic or would interfere with public health, safety and morals. In no event will a permit be issued authorizing the storage, sale or manufacture of beer by the permit holder within ~~three~~ *two* hundred feet (~~3~~*200*') of any school or church as measured in a straight line from the nearest corner of the school or church to the nearest corner of the structure where the beer is to be stored, sold or manufactured.

...

8-112. Prohibited conduct or activities by beer permit holders. It shall be unlawful for any beer permit holder to:

- (1) ~~Make or~~ Allow the sale of beer between the hours of ~~12:00 midnight~~ *1:00 A.M.* and 6:00 A.M.;
- (2) Allow any loud, unusual, or obnoxious noises to emanate from the premises;
- (3) Make or allow any sale of beer to a person under twenty-one (21) years of age;
- ~~(4) Allow any person under twenty-one (21) years of age to loiter in or about his place of business;~~
- ~~(4)~~ Make or allow any sale of beer to any intoxicated person or to any feeble-minded, ~~insane,~~ or otherwise mentally incapacitated person;
- (5) Allow drunk persons to loiter about the premises;
- (6) Serve, sell, or allow the consumption on ~~his~~ *the* premises of any alcoholic beverage with an alcoholic content of more than five percent (5%) by weight *unless the permit holder has an active liquor license from the Tennessee Alcoholic Beverage Commission;*
- (7) "Off-premises" permit holders shall not allow the consumption of alcohol in or about their premises whatsoever;
- (8) Allow gambling on ~~his~~ *the* premises;
- (9) "On-premises *and Special Event*" permit holders shall not fail to provide and maintain sanitary toilet facilities;
- (10) Allow an employee of the permit holder who is under the age of eighteen (18) years to sell beer.

...

Section 4. After final passage, Town Staff is directed to incorporate these changes into an updated ordinance document and municipal code.

Section 5. If any section or part of the Ordinance, including any amendments thereto, is determined to be invalid for any reason, such section or part shall be deemed to be a separate and independent provision. All other sections or parts shall remain in full force and effect. If any section or part of the Ordinance is invalid in one or more of its applications, that section or part shall remain in effect for all other valid applications.

Section 6. This ordinance shall take effect upon the final reading and approval by the Board of Mayor and Aldermen, the public welfare requiring it.

Duly approved and adopted by the Board of Mayor and Aldermen of the Town of Thompson's Station, Tennessee, on the ____ day of _____, 2021.

Corey Napier, Mayor

ATTEST:

Regina Fowler, Town Recorder

Passed First Reading: _____

Passed Second Reading: _____

APPROVED AS TO FORM AND LEGALITY:

Town Attorney

Monthly Finance Report

Town of Thompson's Station

For the period ended February 28, 2021



Prepared by

Steve Banks, Finance Director

Prepared on

March 2, 2021

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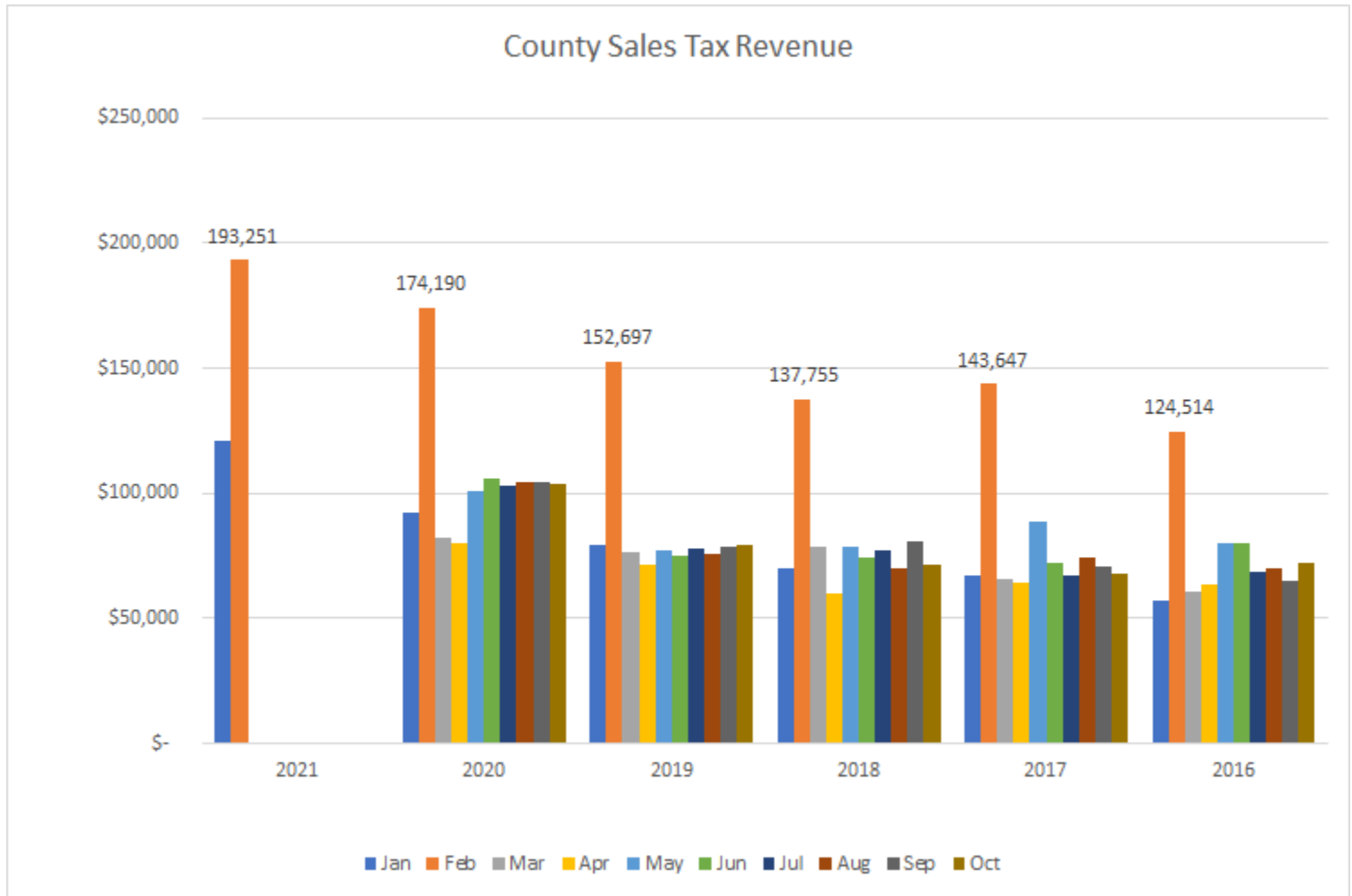
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Financial Summary - Notes

County Sales Tax Revenue is received at the end of each month and typically lags by 2 months.



New Residential Permits Issued

New Residential Permits Issued 2016 -2020

Monthly Comparison

	2016	2017	2018	2019	2020	2021
January	17	11	12	19	9	21
February	16	29	24	6	13	11
March	23	21	17	16	11	
April	19	6	24	33	21	
May	23	18	15	23	16	
June	24	13	10	14	22	
July	10	21	17	13	12	
August	19	17	31	25	6	
September	4	26	21	15	19	
October	17	9	17	8	10	
November	13	43	12	15	5	
December	13	8	5	16	9	
TOTAL FOR YEAR:	198	222	205	203	153	32
SFR:	153	181	173	160	110	16
TWN:	39	33	22	26	35	4
OTHER:	6	8	10	17	8	12

General Fund: Budget VS Actuals

July 2020 - June 2021

	General Fund				Total			
	Actual	Budget	Remaining	% of Budget	Actual	Budget	Remaining	% of Budget
INCOME								
34100 Total Property Tax Revenues	227,334	290,000	62,666	78.00 %	227,334	290,000	62,666	78.00 %
34200 Total Sales Tax Revenues	1,403,097	1,650,000	246,903	85.00 %	1,403,097	1,650,000	246,903	85.00 %
34300 Total Gas Tax Revenues	119,712	175,000	55,288	68.00 %	119,712	175,000	55,288	68.00 %
34400 Total Building/Impact Fees	712,220	702,000	-10,220	101.00 %	712,220	702,000	-10,220	101.00 %
34500 Total Alcohol Tax Revenues	106,532	134,600	28,068	79.00 %	106,532	134,600	28,068	79.00 %
34600 Total Grants	164,926	164,000	-926	101.00 %	164,926	164,000	-926	101.00 %
34700 Total All Other Revenues	62,927	137,200	74,273	46.00 %	62,927	137,200	74,273	46.00 %
Total Income	2,796,747	3,252,800	456,053	86.00 %	2,796,747	3,252,800	456,053	86.00 %
GROSS PROFIT	2,796,747	3,252,800	456,053	86.00 %	2,796,747	3,252,800	456,053	86.00 %
EXPENSES								
43100 Total Payroll Costs	504,930	858,634	353,704	59.00 %	504,930	858,634	353,704	59.00 %
43200 Total Streets and Roads	103,610	236,000	132,390	44.00 %	103,610	236,000	132,390	44.00 %
43300 Total Professional Fees	208,791	413,000	204,209	51.00 %	208,791	413,000	204,209	51.00 %
43400 Total Operating Costs	163,159	243,650	80,491	67.00 %	163,159	243,650	80,491	67.00 %
43500 Total County Services	108,122	133,000	24,878	81.00 %	108,122	133,000	24,878	81.00 %
49030 Debt Service	140,903	294,211	153,308	48.00 %	140,903	294,211	153,308	48.00 %
49900 Total Capital Improvement Costs	337,365	2,904,000	2,566,635	12.00 %	337,365	2,904,000	2,566,635	12.00 %
Total Expenses	1,566,880	5,082,495	3,515,615	31.00 %	1,566,880	5,082,495	3,515,615	31.00 %
NET OPERATING INCOME	1,229,867	-1,829,695	-3,059,562	-67.00 %	1,229,867	-1,829,695	-3,059,562	-67.00 %
NET INCOME	\$1,229,867	\$ -1,829,695	\$ -3,059,562	-67.00 %	\$1,229,867	\$ -1,829,695	\$ -3,059,562	-67.00 %

General Fund - Statement of Activities

July 2020 - February 2021

	Jul - Sep, 2020				Oct - Dec, 2020				Jan - Feb, 2021				Total			
	Current	Jul - Sep, 2019 (PY)	Change	% Change	Current	Oct - Dec, 2019 (PY)	Change	% Change	Current	Jan - Feb, 2020 (PY)	Change	% Change	Current	Jul 2019 - Feb 2020 (PY)	Change	% Change
INCOME																
34100 Total Property Tax Revenues	1,111	2,888	-1,777	-62.00 %	24,822	33,577	-8,755	-26.00 %	201,401	188,781	12,620	7.00 %	227,334	225,246	2,089	1.00 %
34200 Total Sales Tax Revenues	505,962	374,680	131,282	35.00 %	463,671	393,186	70,485	18.00 %	433,464	377,430	56,033	15.00 %	1,403,097	1,145,296	257,801	23.00 %
34300 Total Gas Tax Revenues	44,417	46,710	-2,293	-5.00 %	45,916	47,409	-1,494	-3.00 %	29,379	30,661	-1,282	-4.00 %	119,712	124,780	-5,068	-4.00 %
34400 Total Building/Impact Fees	346,022	259,659	86,363	33.00 %	206,043	341,497	-135,454	-40.00 %	159,755	140,485	19,270	14.00 %	711,820	741,641	-29,821	-4.00 %
34500 Total Alcohol Tax Revenues	42,595	34,299	8,297	24.00 %	34,444	33,275	1,169	4.00 %	29,493	21,920	7,573	35.00 %	106,532	89,494	17,039	19.00 %
34600 Total Grants	164,926		164,926										164,926	0	164,926	0%
34700 Total All Other Revenues	21,244	21,461	-217	-1.00 %	23,281	16,401	6,880	42.00 %	18,401	15,517	2,884	19.00 %	62,927	53,379	9,547	18.00 %
Total Income	1,126,278	739,697	386,581	52.00 %	798,176	865,344	-67,168	-8.00 %	871,893	774,794	97,099	13.00 %	2,796,347	2,379,835	416,512	18.00 %
GROSS PROFIT	1,126,278	739,697	386,581	52.00 %	798,176	865,344	-67,168	-8.00 %	871,893	774,794	97,099	13.00 %	2,796,347	2,379,835	416,512	18.00 %
EXPENSES																
43100 Total Payroll Costs	194,157	194,923	-766	-0.00 %	248,179	226,822	21,357	9.00 %	61,461	159,824	-98,363	-62.00 %	503,797	581,569	-77,771	-13.00 %
43200 Total Streets and Roads	33,675	19,327	14,348	74.00 %	26,890	17,801	9,089	51.00 %	43,045	22,132	20,913	94.00 %	103,610	59,261	44,349	75.00 %
43300 Total Professional Fees	60,045	87,114	-27,069	-31.00 %	78,950	174,254	-95,304	-55.00 %	69,796	93,116	-23,320	-25.00 %	208,791	354,483	-145,693	-41.00 %
43400 Total Operating Costs	92,414	103,092	-10,678	-10.00 %	72,264	58,472	13,792	24.00 %	-2,840	18,712	-21,552	-115.00 %	161,838	180,277	-18,438	-10.00 %
43500 Total County Services	108,122	26,978	81,145	301.00 %		26,978	-26,978	-100.00 %		17,985	-17,985	-100.00 %	108,122	71,940	36,182	50.00 %
49030 Debt Service	140,903	144,105	-3,202	-2.00 %									140,903	144,105	-3,202	-2.00 %
49900 Total Capital Improvement Costs	126,596	6,166	120,430	1,953.00 %	137,470	206,292	-68,823	-33.00 %	73,300	220,652	-147,352	-67.00 %	337,365	433,111	-95,745	-22.00 %
Total Expenses	755,912	581,705	174,207	30.00 %	563,752	710,619	-146,866	-21.00 %	244,762	532,422	-287,660	-54.00 %	1,564,427	1,824,745	-260,318	-14.00 %
NET OPERATING INCOME	370,365	157,992	212,373	134.00 %	234,424	154,726	79,698	52.00 %	627,131	242,372	384,759	159.00 %	1,231,921	555,090	676,830	122.00 %
NET INCOME	\$370,365	\$157,992	\$212,373	134.00 %	\$234,424	\$154,726	\$79,698	52.00 %	\$627,131	\$242,372	\$384,759	159.00 %	\$1,231,921	\$555,090	\$676,830	122.00 %

General Fund - EXPANDED Activities

July 2020 - February 2021

	Jul 2020		Aug 2020		Sep 2020		Oct 2020		Nov 2020		Dec 2020		Jan 2021		Feb 2021		Total	
	Current	Jul 2019 (PY)	Current	Aug 2019 (PY)	Current	Sep 2019 (PY)	Current	Oct 2019 (PY)	Current	Nov 2019 (PY)	Current	Dec 2019 (PY)	Current	Jan 2020 (PY)	Current	Feb 2020 (PY)	Current	Jul 2019 - Feb 2020 (PY)
INCOME																		
34100 Total Property Tax Revenues																		0
31111 Real Property Tax Revenue	676	717	101	2,135	334	36	160	4	3,681	17,955	20,981	15,618	176,752	170,754	24,650	18,027	227,334	225,246
Total 34100 Total Property Tax Revenues	676	717	101	2,135	334	36	160	4	3,681	17,955	20,981	15,618	176,752	170,754	24,650	18,027	227,334	225,246
34200 Total Sales Tax Revenues																		0
31610 Local Sales Tax - Trustee	102,691	77,907	104,385	75,536	104,233	78,839	103,831	79,335	101,159	80,963	110,283	83,733	121,168	92,592	193,251	174,190	941,001	743,095
31810 Adequate School Facilities Tax	5,009	4,854	5,070	5,072	4,777	5,842	5,021	3,814	4,474	6,651	4,444	5,872	5,249	7,869	5,695	3,996	39,740	43,971
32260 Business Tax Revenue	58,066	4,258	2,658	8,505	8,840	4,019	2,031	303	1,949	3,902	1,371	114	2,087	488	1,263	857	78,265	22,447
33320 TVA Payments in Lieu of Taxes									13,505	14,532			13,505	14,532			27,010	29,064
33510 Local Sales Tax - State	36,731	36,953	39,706	41,942	33,797	30,952	37,397	41,022	38,551	36,217	39,655	36,726	38,696	36,037	52,549	46,869	317,081	306,719
Total 34200 Total Sales Tax Revenues	202,497	123,972	151,818	131,055	151,647	119,653	148,281	124,475	159,638	142,266	155,752	126,445	180,705	151,518	252,759	225,912	1,403,097	1,145,296
34300 Total Gas Tax Revenues																		0
33552 State Streets & Trans. Revenue	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	6,255
33553 SSA - Motor Fuel Tax	6,700	7,897	7,609	7,627	7,259	7,954	7,382	7,871	7,720	7,659	7,264	7,547	6,886	7,403	7,431	7,468	58,250	61,426
33554 SSA - 1989 Gas Tax	3,001	1,256	1,174	1,183	1,165	1,321	1,153	1,253	1,183	1,195	1,154	1,200	1,082	1,199	1,119	1,177	11,030	9,783
33555 SSA - 3 Cent Gas Tax		2,327	2,175	2,192	2,158	2,447	2,136	2,322	2,192	2,214	2,138	2,223	2,005	2,222	2,074	2,181	14,877	18,128
33556 SSA - 2017 Gas Tax	3,366	3,156	3,833	3,051	3,632	3,953	3,712	3,945	3,896	3,852	3,640	3,783	3,465	3,699	3,755	3,748	29,299	29,188
Total 34300 Total Gas Tax Revenues	13,849	15,418	15,573	14,835	14,996	16,457	15,165	16,173	15,773	15,701	14,978	15,535	14,219	15,305	15,160	15,356	119,712	124,780
34400 Total Building/Impact Fees																		0
32200 Building Permits	25,079	26,220	210,864	44,271	21,520	33,391	24,690	10,540	26,084	33,892	20,106	171,783	31,765	16,256	19,210	33,251	379,319	369,603
32230 Submittal & Review Fees	10,963	425	225	800	2,125	275	2,200	3,013	2,000	400	8,002	5,292	745	8,177	949	4,054	27,208	22,436
32300 Impact Fees	35,057	38,628	15,037	69,275	25,151	46,374	43,116	11,790	43,116	62,214	36,729	42,573	71,157	25,085	35,930	53,662	305,293	349,601
Total 34400 Total Building/Impact Fees	71,099	65,273	226,126	114,346	48,796	80,040	70,006	25,343	71,200	96,507	64,837	219,648	103,667	49,518	56,088	90,967	711,820	741,641
34500 Total Alcohol Tax Revenues																		0
31710 Wholesale Beer Tax	12,285	9,430	11,820	9,856	10,098	10,137	12,318	9,179	9,533	9,756	7,008	7,624	13,103	9,182	8,729	7,384	84,894	72,549
31720 Wholesale Liquor Tax	1,877	187	2,454	1,354	1,836	992	682	1,802	1,816	86	425	1,897	4,142	2,245	2,033	1,788	15,265	10,352
32000 Beer Permits									100	300	400	300	100	100	100	100	500	700
33535 Mixed Drink Tax	850	620	669	1,155	706	568	650	567	754	570	758	1,193	696	596	791	626	5,873	5,894
Total 34500 Total Alcohol Tax Revenues	15,013	10,237	14,943	12,365	12,640	11,697	13,650	11,549	12,202	10,712	8,591	11,014	17,941	12,123	11,552	9,797	106,532	89,494
34600 Total Grants																		0
33730 St of TN Grants							164,926											164,926
Total 34600 Total Grants							164,926											164,926
34700 Total All Other Revenues																		0
31900 CATV Franchise Fee Income		4,799	6,361	2,948			3,106		2,972	2,966				3,855	6,330	3,070	18,768	17,639
32245 Miscellaneous Fees							250	392			175		200		225		850	392
33520 State Income Tax															609		609	0
36120 Interest Earned - Invest. Accts	891	3,189	1,378	3,328	1,050	3,036	1,184	2,561	786	2,664	793	3,026	794	2,436	306	2,806	7,181	23,046
37746 Parks Revenue	56	1,050	5,748	2,087	3,461	899	5,871	1,322	5,856	1,245	90	700	3,273	150	4,890	1,900	29,245	9,353
37747 Parks Deposit Return		-200		-1,400				-1,200	-350	-600		-400				-400	-350	-4,200
Total 37746 Parks Revenue	56	850	5,748	687	3,461	899	5,871	122	5,506	645	90	300	3,273	150	4,890	1,500	28,895	5,153
37990 Other Revenue	850	575	850	575	600	575	1,100	575	850	525	600	2,625	1,149	600	625	1,100	6,624	7,150
Total 34700 Total All Other Revenues	1,797	9,413	14,336	7,538	5,111	4,510	11,510	3,650	10,114	6,801	1,657	5,951	5,416	7,041	12,985	8,476	62,927	53,379
Total Income	304,931	225,030	422,896	282,274	398,450	232,393	258,771	181,193	272,608	289,941	266,796	394,210	498,699	406,259	373,194	368,535	2,796,347	2,379,835
GROSS PROFIT																		
304,931	225,030	422,896	282,274	398,450	232,393	258,771	181,193	272,608	289,941	266,796	394,210	498,699	406,259	373,194	368,535	2,796,347	2,379,835	
EXPENSES																		
43100 Total Payroll Costs																		0
41110 Payroll Expense	54,966	44,300	47,224	52,810	47,167	55,663	55,147	63,228	52,549	53,976	93,982	58,532	-20,323	76,263	53,541	45,869	384,254	450,641
41141 Payroll Taxes - FICA	3,397	2,850	2,917	3,274	2,910	3,451	3,404	3,914	3,243	3,336	5,805	3,617	-1,255	4,716	3,917	2,834	24,339	27,992
41142 Payroll Taxes - Medicare	795	667	682	766	681	807	796	917	758	780	1,358	848	-293	1,103	916	663	5,693	6,549
41147 Payroll Taxes - SUTA	137	110	-128	58		86	53	143	52	39	71		429	1,124	288	146	902	1,706
41289 Employee Retirement Expense	2,647	5,465	2,204	2,164	2,201	2,221	2,663	2,669	2,384	2,337	3,940	2,019	3,231	3,474	2,598	2,037	21,867	22,386
41514 Insurance - Employee Medical	10,536	6,876	8,227	4,895	7,593	8,461	6,926	15,518	2,877	6,016	12,171	8,932	8,953	11,048	9,459	10,547	66,743	72,294
Total 43100 Total Payroll Costs	72,479	60,267	61,127	63,967	60,552	70,689	68,989	86,389	61,863	66,484	117,326	73,949	-9,259	97,728	70,720	62,096	503,797	581,569
43200 Total Streets and Roads																		0
41264 Repairs & Maint - Vehicles		160		2,300		1,198		259	1,011	1,108		5		374	20	109	1,031	5,514
41268 Repairs & Maint-Roads, Drainage	3,073	1,820	-11	2,188	3,818	1,792	1,660	2,078	2,486	2,177	8,675	947	815	688	12,809	4,372	33,326	16,063
41269 SSA - Street Repair Expense	337	630	10,122	2,092	12,670	838	498	3,211	7,571	2,181	1,012	1,749	27,007	13,142	640	1,824	59,857	25,667
41270 Vehicle Fuel & Oil Expense	2,603	2,441		1,603	1,062	2,266	939	1,750	60	82	2,978	2,253	161	911	1,593	712	9,397	12,017
Total 43200 Total Streets and Roads	6,014	5,051	10,111	8,183	17,551	6,093	3,098	7,298	11,127	5,549	12,665	4,954	27,983	15,115				

	Jul 2020		Aug 2020		Sep 2020		Oct 2020		Nov 2020		Dec 2020		Jan 2021		Feb 2021		Total	
	Current	Jul 2019 (PY)	Current	Aug 2019 (PY)	Current	Sep 2019 (PY)	Current	Oct 2019 (PY)	Current	Nov 2019 (PY)	Current	Dec 2019 (PY)	Current	Jan 2020 (PY)	Current	Feb 2020 (PY)		Jul 2019 - Feb 2020 (PY)
41211 Postage, Freight & Express Chgs		156			289		15		120	270	700	165		13	36	1,124	640	
41221 Printing, Forms & Photocopy Exp		467													46	0	513	
41231 Publication of Legal Notices		95	236	208	47	52	86	307		568		1,164		229	610	258	979	2,881
41235 Memberships & Subscriptions	1,785	1,750			452		861	840	36	213		269	269	160	335	250	3,738	3,482
41241 Utilities - Electricity	940	938	1,129	1,223	1,030	1,168	697	1,080	1,229	905	672	792	875	1,021	1,201	1,121	7,773	8,249
41242 Utilities - Water	191	257	172	210	163	271	212	283	180	292	195	285	168	252	482	135	1,763	1,985
41244 Utilities - Gas	79	78	79	82	79	82	79	78	85	99	128	256	211	164	215	199	953	1,038
41245 Telecommunications Expense	450	405	450	425	450	440	4,607	440	492	440	1,296	440	450	440	974	440	9,169	3,470
41265 Parks & Rec. Expense	500	500	500	500	519	1,817	2,189	563	500	6,346	500	836	1,973	1,453	981	1,330	7,662	13,345
41266 Repairs & Maint - Bldg										761	271	361	1,864	790	1,123	19	3,258	1,931
41280 Travel Expense		774							74							56	74	830
41285 Continuing Education Expense		1,493	319		219	165	319	200	1,320	755		1,463		405	280	615	2,457	5,095
41300 Economic Development Expense	399	500				599	200	200		75		200	2,257	297			2,856	1,871
41311 Office Expense	7,935	6,692	5,980	19,736	6,234	7,004	8,996	12,623	7,258	4,970	38,387	19,674	-2,015	3,284	-15,895	4,106	56,881	78,090
41320 Supplies Expense											248						248	0
41511 Insurance - Property		23,064	28,646		-1,500	-1,250											27,146	21,814
41512 Insurance - Workers Comp.			15,233	14,486			310			258							15,543	14,744
41513 Insurance - Liability				16,009	4,582												4,582	16,009
41515 Insurance - Auto				2,694	3,204												3,204	2,694
41516 Insurance - E & O					10,624												10,624	0
41899 Other Expenses															803		803	0
42100 Permits and Fees					1,000												1,000	0
Total 43400 Total Operating Costs	12,280	37,170	52,743	55,573	27,392	10,348	18,572	16,614	11,294	15,954	42,398	25,905	6,051	8,507	-8,892	10,205	161,838	180,277
43500 Total County Services																	0	0
41291 Animal Control Services	8,122	659		659		659		659		659		659		659		659	8,122	5,273
41800 Emergency Services	100,000	8,333		8,333		8,333		8,333		8,333		8,333		8,333		8,333	100,000	66,667
Total 43500 Total County Services	108,122	8,993		8,993		8,993		8,993		8,993		8,993		8,993		8,993	108,122	71,940
49030 Debt Service				140,903		144,105											140,903	144,105
49900 Total Capital Improvement Costs																	0	0
41940 Capital Projects																	0	0
1555 Office Renovations						1,966											0	1,966
Approved Budget Capital Expenditures							18,960	79,502	3,375	12,558	20,218		11,550		40,951		95,054	92,060
Critz Lane Phase 1	28,800		9,331	4,200	1,270		332		600	9,800		99,832	1,400	211,217		9,435	41,733	334,484
Park Improvements			37,145		50,050		49,110		7,285	4,600	37,590		19,399				200,579	4,600
Total 41940 Capital Projects	28,800		46,476	4,200	51,320	1,966	68,402	79,502	11,260	26,958	57,808	99,832	32,349	211,217	40,951	9,435	337,365	433,111
Total 49900 Total Capital Improvement Costs	28,800		46,476	4,200	51,320	1,966	68,402	79,502	11,260	26,958	57,808	99,832	32,349	211,217	40,951	9,435	337,365	433,111
Total Expenses	236,276	149,155	189,547	152,294	330,090	280,256	207,266	269,496	111,090	199,251	245,397	241,872	125,156	380,376	119,606	152,046	1,564,427	1,824,745
NET OPERATING INCOME	68,655	75,875	233,350	129,980	68,361	-47,863	51,506	-88,303	161,518	90,690	21,400	152,339	373,543	25,883	253,588	216,489	1,231,921	555,090
NET INCOME	\$68,655	\$75,875	\$233,350	\$129,980	\$68,361	\$-47,863	\$51,506	\$-88,303	\$161,518	\$90,690	\$21,400	\$152,339	\$373,543	\$25,883	\$253,588	\$216,489	\$1,231,921	\$555,090

General Fund - Capital Expenditures

July 2020 - February 2021

Date	Transaction Type	Num	Num	Name	Division	Class	Memo/Description	Amount
Ordinary Income/Expenses								
Expenses								
49900 Total Capital Improvement Costs								
41940 Capital Projects								
Approved Budget Capital Expenditures								
10/26/2020	Bill	INV-78439	INV-78439	Dude Solutions	General Fund	8000 - Town Hall	Software connection and configuration fees	18,960
11/10/2020	Bill	118181003-1020	118181003-1020	Kimley-Horn	General Fund	9000 - Parks & Recreation	ATP Grant - Greenways Phase 3 trailways	3,375
12/01/2020	Bill	118181003-1120	118181003-1120	Kimley-Horn	General Fund	9000 - Parks & Recreation	ATP Grant - Greenways Phase 3 trailways	18,825
12/17/2020	Bill	82033	82033	Dude Solutions	General Fund	4500 Community Development	Point and Pay merchant connection	1,393
01/01/2021	Bill	1181813-1220	1181813-1220	Kimley-Horn	General Fund	9000 - Parks & Recreation	ATP Grant - Greenways Phase 3 trailways	5,775
01/31/2021	Bill	118181003-0121	118181003-0121	Kimley-Horn	General Fund	9000 - Parks & Recreation	ATP Grant - Greenways Phase 3 trailways	5,775
02/10/2021	Check	6021	6021	Bobcat of Nashville	General Fund	6000 - Streets & Maintenance	Woodchipper	40,951
Total for Approved Budget Capital Expenditures								\$95,054
Critz Lane Phase 1								
07/31/2020	Check	5880	5880	Richard and Linda Emeott	General Fund	4500 Community Development	ROW Tract #18	26,719
07/31/2020	Check	5881	5881	Wells Fargo Bank	General Fund	4500 Community Development	ROW Tract #18 - Richard and Linda Emeott	2,081
08/01/2020	Bill	1507	1507	Reynolds, Potter, Ragan & Vandivort, PLC	General Fund	4500 Community Development	ROW Critz Lane phase 1	260
08/01/2020	Bill	20-11732	20-11732	Ragan-Smith Associates, Inc.	General Fund	8000 - Town Hall	CEI Services for Critz Lane Phase 1 pre-bid	8,890
08/01/2020	Bill	20-11732	20-11732	Ragan-Smith Associates, Inc.	General Fund	8000 - Town Hall	CEI pre-bidding out of pocket expenses	181
09/11/2020	Bill	1538	1538	Reynolds, Potter, Ragan & Vandivort, PLC	General Fund	4500 Community Development	ROW and other Critz project	1,020
09/18/2020	Check	5917	5917	Benjamin and Claire Hailey	General Fund	4500 Community Development	Mail box compenstation	250
10/08/2020	Check	5930	5930	Williamson County Register of Deeds	General Fund	4500 Community Development	2730 Critz Lane - Tract 18	12
10/09/2020	Bill	1571	1571	Reynolds, Potter, Ragan & Vandivort, PLC	General Fund	4500 Community Development	Closing for Critz Lane ROW	320

Date	Transaction Type	Num	Num	Name	Division	Class	Memo/Description	Amount
11/13/2020	Bill	1583	1583	Reynolds, Potter, Ragan & Vandivort, PLC	General Fund	4500 Community Development	Critz ROW closings	600
01/01/2021	Bill	547	547	R & D Enterprises, Inc.	General Fund	4500 Community Development	Tract 07 - T Evans	1,400
Total for Critz Lane Phase 1							\$41,733	
Park Improvements								
08/01/2020	Bill	118181003-0720	118181003-0720	Kimley-Horn	General Fund	9000 - Parks & Recreation	ATP Grant - Greenways Phase 3 trailways	15,475
08/01/2020	Bill	118181002-0720	118181002-0720	Kimley-Horn	General Fund	9000 - Parks & Recreation	Resolution 2020-002 - ATP Grant for Phase 2 of Trailways grant through Preservation Park	21,670
09/09/2020	Bill	118181002-0820	118181002-0820	Kimley-Horn	General Fund	9000 - Parks & Recreation	Resolution 2020-002 - ATP Grant for Phase 2 of Trailways grant through Preservation Park	23,425
09/09/2020	Bill	118181003-0820	118181003-0820	Kimley-Horn	General Fund	9000 - Parks & Recreation	ATP Grant - Greenways Phase 3 trailways	26,625
10/01/2020	Bill	118181002-0920	118181002-0920	Kimley-Horn	General Fund	9000 - Parks & Recreation	Resolution 2020-002 - ATP Grant for Phase 2 of Trailways grant through Preservation Park	17,785
10/01/2020	Bill	118181003-0920	118181003-0920	Kimley-Horn	General Fund	9000 - Parks & Recreation	ATP Grant - Greenways Phase 3 trailways	31,325
11/10/2020	Bill	118181002-1020	118181002-1020	Kimley-Horn	General Fund	9000 - Parks & Recreation	Resolution 2020-002 - ATP Grant for Phase 2 of Trailways grant through Preservation Park	7,285
12/01/2020	Bill	118181004-1120	118181004-1120	Kimley-Horn	General Fund	9000 - Parks & Recreation	Clayton Arnold Connector walkway design	9,250
12/01/2020	Bill	118181002-1120	118181002-1120	Kimley-Horn	General Fund	9000 - Parks & Recreation	Resolution 2020-002 - ATP Grant for Phase 2 of Trailways grant through Preservation Park	12,905
12/03/2020	Bill	L00813011	L00813011	Thompson Machinery	General Fund	9000 - Parks & Recreation	Rental for parking Lot at Preservation Park	2,835
12/11/2020	Bill	Rock Hauled	Rock Hauled	Williamson County Highway Dept.	General Fund	9000 - Parks & Recreation	Rock for parking lot addition at Preservation Park	12,600
01/01/2021	Bill	L0081302	L0081302	Thompson Machinery	General Fund	9000 - Parks & Recreation	Additional parking area	2,329
01/01/2021	Bill	118181004-1220	118181004-1220	Kimley-Horn	General Fund	9000 - Parks & Recreation	Clayton Arnold Connector walkway design	5,400
01/01/2021	Bill	118181002-1220	118181002-1220	Kimley-Horn	General Fund	9000 - Parks & Recreation	Resolution 2020-002 - ATP Grant for Phase 2 of Trailways grant through Preservation Park	7,285
01/31/2021	Bill	118181002-0121	118181002-0121	Kimley-Horn	General Fund	9000 - Parks & Recreation	Resolution 2020-002 - ATP Grant for Phase 2 of Trailways grant through Preservation Park	4,385
Total for Park Improvements							\$200,579	

Date	Transaction Type	Num	Num	Name	Division	Class	Memo/Description	Amount
	Total for 41940 Capital Projects							\$337,365
	Total for 49900 Total Capital Improvement Costs							\$337,365
	Total for Expenses							\$337,365
	Net Income							\$ -337,365

General Fund Debt Obligations

July 2020 - February 2021

Date	Transaction Type	Num	Num	Name	Division	Class	Memo/Description	Amount	Balance
Ordinary Income/Expenses									
Expenses									
49030 Debt Service									
09/09/2020	Check	5908	5908	First Horizon Bank	General Fund	8000 - Town Hall	Interest payment - Loan 80303732	18,705	18,705
09/23/2020	Bill	Note1680263	Note1680263	First Farmers & Merchants Bank	General Fund	8000 - Town Hall	Principle -	115,300	134,005
09/23/2020	Bill	Note1680263	Note1680263	First Farmers & Merchants Bank	General Fund	8000 - Town Hall	Interest	6,898	140,903
Total for 49030 Debt Service								\$140,903	
Total for Expenses								\$140,903	
Net Income								\$ -140,903	

NOTE

First Horizon note payable

Balance \$1,290,000 Interest Rate is 2.90% Interest paid semi-annually, principal paid annually

First Farmers note payable

Balance \$ 345,900 Interest Rate is 2.85 % Interest paid semi-annually, principal paid annually

Wastewater Fund Budget VS Actuals

July 2020 - February 2021

	Wastewater					Total				
	Actual	Budget	over Budget	Remaining	% Remaining	Actual	Budget	over Budget	Remaining	% Remaining
INCOME										
34090 Total Wastewater Fees	813,109	875,312	-62,203	62,203	7.00 %	813,109	875,312	-62,203	62,203	7.00 %
341090 Total Tap Fees	462,003	208,336	253,667	-253,667	-122.00 %	462,003	208,336	253,667	-253,667	-122.00 %
34700 Total All Other Revenues	3,659	10,145	-6,486	6,486	64.00 %	3,659	10,145	-6,486	6,486	64.00 %
Total Income	1,278,772	1,093,793	184,979	-184,979	-17.00 %	1,278,772	1,093,793	184,979	-184,979	-17.00 %
GROSS PROFIT	1,278,772	1,093,793	184,979	-184,979	-17.00 %	1,278,772	1,093,793	184,979	-184,979	-17.00 %
EXPENSES										
43100 Total Payroll Costs	198,576	196,724	1,852	-1,852	-1.00 %	198,576	196,724	1,852	-1,852	-1.00 %
43200 Total Streets and Roads	454		454	-454		454	0	454	-454	0%
43300 Total Professional Fees	54,609	115,828	-61,219	61,219	53.00 %	54,609	115,828	-61,219	61,219	53.00 %
43400 Total Operating Costs	135,438	157,216	-21,778	21,778	14.00 %	135,438	157,216	-21,778	21,778	14.00 %
43600 Total Interest Expense	4,956	6,336	-1,380	1,380	22.00 %	4,956	6,336	-1,380	1,380	22.00 %
49900 Total Capital Improvement Costs	1,564,106	2,323,336	-759,230	759,230	33.00 %	1,564,106	2,323,336	-759,230	759,230	33.00 %
Total Expenses	1,958,140	2,799,440	-841,301	841,301	30.00 %	1,958,140	2,799,440	-841,301	841,301	30.00 %
NET OPERATING INCOME	-679,368	-1,705,647	1,026,279	-1,026,279	60.00 %	-679,368	-1,705,647	1,026,279	-1,026,279	60.00 %
OTHER EXPENSES										
Depreciation	300,000	353,296	-53,296	53,296	15.00 %	300,000	353,296	-53,296	53,296	15.00 %
Total Other Expenses	300,000	353,296	-53,296	53,296	15.00 %	300,000	353,296	-53,296	53,296	15.00 %
NET OTHER INCOME	-300,000	-353,296	53,296	-53,296	15.00 %	-300,000	-353,296	53,296	-53,296	15.00 %
NET INCOME	\$ -979,368	\$ -2,058,943	\$1,079,575	\$ -1,079,575	52.00 %	\$ -979,368	\$ -2,058,943	\$1,079,575	\$ -1,079,575	52.00 %

Wastewater Fund Statement of Activities

July 2020 - June 2021

	Jul - Sep, 2020				Oct - Dec, 2020				Jan - Mar, 2021				Apr - Jun, 2021				Total			
	Current	Jul - Sep, 2019 (PY)	Change	% Change	Current	Oct - Dec, 2019 (PY)	Change	% Change	Current	Jan - Mar, 2020 (PY)	Change	% Change	Current	Apr - Jun, 2020 (PY)	Change	% Change	Current	Jul 2019 - Jun 2020 (PY)	Change	% Change
INCOME																				
34090 Total Wastewater Fees	341,652	317,439	24,213	8.00 %	259,221	318,629	-59,408	-19.00 %	212,236	293,466	-81,230	-28.00 %		320,258	-320,258	-100.00 %	813,109	1,249,792	-436,683	-35.00 %
341090 Total Tap Fees	111,701	130,000	-18,299	-14.00 %	175,152	130,000	45,152	35.00 %	175,151	343,400	-168,249	-49.00 %		140,000	-140,000	-100.00 %	462,003	743,400	-281,397	-38.00 %
34700 Total All Other Revenues	1,909	6,057	-4,148	-68.00 %	1,530	4,165	-2,635	-63.00 %	221	5,293	-5,072	-96.00 %		24,115	-24,115	-100.00 %	3,659	39,631	-35,971	-91.00 %
Total Income	455,262	453,496	1,766	0.00 %	435,902	452,794	-16,892	-4.00 %	387,608	642,159	-254,551	-40.00 %	0	484,374	-484,374	-100.00 %	1,278,772	2,032,823	-754,051	-37.00 %
GROSS PROFIT																				
455,262 453,496 1,766 0.00 % 435,902 452,794 -16,892 -4.00 % 387,608 642,159 -254,551 -40.00 % 0 484,374 -484,374 -100.00 % 1,278,772 2,032,823 -754,051 -37.00 %																				
EXPENSES																				
43100 Total Payroll Costs	36,146	35,600	547	2.00 %	42,454	35,600	6,855	19.00 %	119,975	40,854	79,122	194.00 %		53,765	-53,765	-100.00 %	198,576	165,817	32,759	20.00 %
43200 Total Streets and Roads					224		224		230	411	-181	-44.00 %					454	411	43	10.00 %
43300 Total Professional Fees	2,800	17,399	-14,599	-84.00 %	15,161	48,579	-33,419	-69.00 %	36,649	41,640	-4,992	-12.00 %		180,452	-180,452	-100.00 %	54,609	288,071	-233,462	-81.00 %
43400 Total Operating Costs	40,694	50,185	-9,491	-19.00 %	55,524	51,935	3,589	7.00 %	39,219	40,454	-1,235	-3.00 %		32,904	-32,904	-100.00 %	135,438	175,478	-40,041	-23.00 %
43600 Total Interest Expense	1,970	2,666	-696	-26.00 %	1,815	2,466	-650	-26.00 %	1,170	2,295	-1,125	-49.00 %		2,145	-2,145	-100.00 %	4,956	9,572	-4,616	-48.00 %
49900 Total Capital Improvement Costs	831,931	8,412	823,519	9,790.00 %	700,364	519,197	181,166	35.00 %	31,812	615,182	-583,370	-95.00 %		962,646	-962,646	-100.00 %	1,564,106	2,105,436	-541,331	-26.00 %
Total Expenses	913,542	114,262	799,280	700.00 %	815,542	657,777	157,766	24.00 %	229,055	740,836	-511,781	-69.00 %	0	1,231,912	-1,231,912	-100.00 %	1,958,140	2,744,786	-786,647	-29.00 %
NET OPERATING INCOME	-458,279	339,235	-797,514	-235.00 %	-379,641	-204,983	-174,657	-85.00 %	158,552	-98,677	257,230	261.00 %	0	-747,538	747,538	100.00 %	-679,368	-711,964	32,596	5.00 %
OTHER EXPENSES																				
Depreciation	112,500	112,500	0	0.00 %	112,500	112,500	0	0.00 %	112,500	112,500	0	0.00 %		112,500	-112,500	-100.00 %	337,500	450,000	-112,500	-25.00 %
Total Other Expenses	112,500	112,500	0	0.00 %	112,500	112,500	0	0.00 %	112,500	112,500	0	0.00 %	0	112,500	-112,500	-100.00 %	337,500	450,000	-112,500	-25.00 %
NET OTHER INCOME	-112,500	-112,500	0	0.00 %	-112,500	-112,500	0	0.00 %	-112,500	-112,500	0	0.00 %	0	-112,500	112,500	100.00 %	-337,500	-450,000	112,500	25.00 %
NET INCOME	\$ -570,779	\$226,735	\$ -797,514	-352.00 %	\$ -492,141	\$ -317,483	\$ -174,657	-55.00 %	\$46,052	\$ -211,177	\$257,230	122.00 %	\$0	\$ -860,038	\$860,038	100.00 %	\$ -1,016,868	\$ -1,161,964	\$145,096	12.00 %

Wastewater Fund Capital Projects Activity

July 2020 - February 2021

Date	Transaction Type	Num	Num	Name	Division	Memo/Description	Amount
Ordinary Income/Expenses							
Expenses							
49900 Total Capital Improvement Costs							
41940 Capital Projects							
Approved Budget Capital Expenditures							
07/07/2020	Bill	Pay #9	Pay #9	W & O Construction Co.	Wastewater	Hill Property Drip Fields installation	221,327
07/17/2020	Bill	20413	20413	EarthSearch Soil Consulting LLC	Wastewater	Alexander property soil testing - addition	9,750
08/04/2020	Bill	Pmt 10	Pmt 10	W & O Construction Co.	Wastewater	Hill Property Drip Fields installation	140,691
08/10/2020	Bill	180595	180595	Barge Design Solutions, Inc.	Wastewater	Hill property Drip Field project management	14,300
08/10/2020	Bill	180596	180596	Barge Design Solutions, Inc.	Wastewater	WWTP Design BOMA resolution 2020-007	203,071
09/04/2020	Bill	181335	181335	Barge Design Solutions, Inc.	Wastewater	Hill property Drip Field project management	11,289
09/04/2020	Bill	181336	181336	Barge Design Solutions, Inc.	Wastewater	WWTP Design BOMA resolution 2020-007	116,507
09/11/2020	Bill	Pay no 11	Pay no 11	W & O Construction Co.	Wastewater	Hill Property Drip Fields installation #11	114,996
10/01/2020	Bill	240656	240656	USABlueBook	Wastewater	Freight expense on Blower	250
10/01/2020	Bill	182055	182055	Barge Design Solutions, Inc.	Wastewater	Hill property Drip Field project management	4,869

Date	Transaction Type	Num	Num	Name	Division	Memo/Description	Amount
10/08/2020	Bill	Pay no. 12	Pay no. 12	W & O Construction Co.	Wastewater	Hill Property Drip Fields installation	109,478
11/09/2020	Journal Entry	2021-0057	2021-0057		Wastewater	Correct consult fees WWTP	100,043
11/09/2020	Bill	Pay no 13	Pay no 13	W & O Construction Co.	Wastewater	Hill Property Drip Fields installation	173,539
11/12/2020	Bill	182850	182850	Barge Design Solutions, Inc.	Wastewater	Hill property Drip Field project management	1,002
11/30/2020	Journal Entry	2021-0115	2021-0115		Wastewater	Reclass to WWTP design	149,817
12/01/2020	Bill	Pay no 14	Pay no 14	W & O Construction Co.	Wastewater	Hill Property Drip Fields installation	78,035
12/03/2020	Bill	183755	183755	Barge Design Solutions, Inc.	Wastewater	Hill property - expenses	198
12/03/2020	Bill	183755	183755	Barge Design Solutions, Inc.	Wastewater	Hill property Drip Field project management	2,633
12/31/2020	Journal Entry	2021-0116	2021-0116		Wastewater	Reclass to WWTP design	62,721
01/04/2021	Bill	184520	184520	Barge Design Solutions, Inc.	Wastewater	Hill property Drip field PM - expenses	32
01/04/2021	Bill	184520	184520	Barge Design Solutions, Inc.	Wastewater	Hill property Drip Field project management	3,330
02/09/2021	Bill	62525	62525	Wascon, Inc.	Wastewater	5 Cellular units for pump stations . HC #1, #2, Baptist Church, Town Hall, Allenwood	12,500
02/16/2021	Bill	185329	185329	Barge Design Solutions, Inc.	Wastewater	Hill property Drip Field project management	1,160
02/16/2021	Bill	185330	185330	Barge Design Solutions, Inc.	Wastewater	WWT Design	10,971
Total for Approved Budget Capital Expenditures						\$1,542,508	

Critz Lane Phase 1

Date	Transaction Type	Num	Num	Name	Division	Memo/Description	Amount
10/01/2020	Bill	182058	182058	Barge Design Solutions, Inc.	Wastewater	Relocation of Sewer Lines for Critz Lane Phase 1 contstruction	4,648
11/05/2020	Bill	182853	182853	Barge Design Solutions, Inc.	Wastewater	Relocation of Sewer Lines for Critz Lane Phase 1 contstruction	10,558
12/03/2020	Bill	183758	183758	Barge Design Solutions, Inc.	Wastewater	Relocation of Sewer Lines for Critz Lane Phase 1 contstruction - expenses	171
12/03/2020	Bill	183758	183758	Barge Design Solutions, Inc.	Wastewater	Relocation of Sewer Lines for Critz Lane Phase 1 contstruction	2,403
01/04/2021	Bill	184522	184522	Barge Design Solutions, Inc.	Wastewater	Critz Lane - expenses	174
01/04/2021	Bill	184522	184522	Barge Design Solutions, Inc.	Wastewater	Relocation of Sewer Lines for Critz Lane Phase 1 contstruction	700
02/16/2021	Bill	185331	185331	Barge Design Solutions, Inc.	Wastewater	Expenses for Critz lane	258
02/16/2021	Bill	185331	185331	Barge Design Solutions, Inc.	Wastewater	Relocation of Sewer Lines for Critz Lane Phase 1 contstruction	2,688
Total for Critz Lane Phase 1							\$21,598
Total for 41940 Capital Projects							\$1,564,106
Total for 49900 Total Capital Improvement Costs							\$1,564,106
Total for Expenses							\$1,564,106
Net Income							\$ -1,564,106

Unaudited CASH BALANCES

General Fund Cash Position	Feb-21
Checking	\$ 2,873,768
Savings	\$ 5,672,682
Less: Reserve	\$ (1,041,217)
Total Cash	\$ 7,505,233
Less:	
Note Balance (First Farmers)	\$ (345,900)
Note Balance (First Tennessee)	\$ (1,290,000)
Due to Wastewater Fund	
Accounts Payable	\$ -
Critz Lane Projects & related	\$ (1,676,175)
Committed	\$ (263,175)
Total Available Funds	\$ 3,929,983

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Wastewater Funds Cash Position	Feb-21
Checking	\$ 172,492
Savings	\$ 2,643,151
Less: Reserve (6 mths Operating Expenses)	\$ (522,158)
Total Cash	\$ 2,293,485
<i>Add:</i>	
Accounts Receivable	\$ 160,997
Due from Gen Fund	
<i>Less:</i>	
Note Balance (Franklin Synergy)	\$ (250,000)
Accounts Payable	\$ -
Deposits	\$ (37,500)
Less Committed:	
Hill Prop Drip Fields	\$ (253,633)
Cell #1 repairs	\$ -
All Other	\$ (596,268)
Total Available Funds	\$ 1,317,081

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Project	Barge Primary Contact	General Project Description	Recent Actions	Upcoming Actions
<u>Hill Property Drip Fields</u>	<i>Matthew Johnson</i>	Development of additional drip fields to serve the Regional Wastewater Treatment Facility	<ul style="list-style-type: none"> - All drip fields are operational and are being utilized. - Completed testing of all piping. - Began addressing punchlist items. 	<ul style="list-style-type: none"> - Complete all punchlist items. - Once additional control valves are received, install valves at site.
<u>Alexander Property Drip Fields</u>	<i>Matthew Johnson</i>	Soils investigation, surveying, and eventual development of drip fields to serve the wastewater system and expand system effluent disposal capacity.	<ul style="list-style-type: none"> - All areas have been reviewed and acreage has been finalized. - The site has yielded approximately 36 acres of usable soil. 	<ul style="list-style-type: none"> - None.
<u>Regional Wastewater Treatment Facility Expansion</u>	<i>Matthew Johnson</i>	Expansion of Regional Facility to increase treatment capacity.	<ul style="list-style-type: none"> - SRF placed funding for plant on the State's priority ranking list. - Continued to coordinate with SRF and USDA regarding funding application requirements. - Continued to coordinate environmental impact review with funding agencies. - SRF facilities plan completed. 	<ul style="list-style-type: none"> - Continue to coordinate with funding agencies regarding environmental impact review and application requirements.
<u>Critz Lane Utility Relocation</u>	<i>Clayton Foster</i>	Relocation of wastewater pipelines along Critz Lane to accommodate new road improvements.	<ul style="list-style-type: none"> - Low bid approved by BOMA to Hughes Excavating. - Conformed documents prepared and submitted to Hughes. - Hughes expects to return partially executed contracts by 3/5/2021 - Contracts are being reviewed by Reynolds, Potter, Ragan, & Vandivort, PLC 	<ul style="list-style-type: none"> - Draft contract to be approved by BOMA.