# WESTERN INTERCEPTOR

## FROM MH-58 TO MH-97

MADISON UTILITIES
MADISON, ALABAMA

BIDDING REQUIREMENTS, CONTRACT DOCUMENTS, AND SPECIFICATIONS

ENGINEERS OF THE SOUTH
2143 ARLINGTON BLVD, SUITE 3
FLORENCE, ALABAMA 35630
TEL 256-766-9430

AUGUST 2020

MU-1940

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**WESTERN INTERCEPTOR FROM MH-58 TO MH-97**

**CONTRACT DOCUMENTS GROUP**

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**MADISON UTILITIES**
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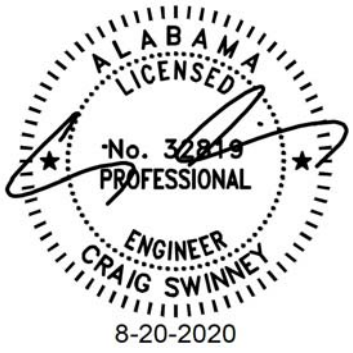
1.1 DESIGN PROFESSIONALS OF RECORD

| | | |
|---|---|---|
| PROJECT ENGINEER | Craig Swinney<br>PE No. 32819<br><br>Engineers of the South<br>Florence, AL<br>(256)766-9430 |  |

END OF SECTION 00 01 07

## SECTION 00 11 13 – ADVERTISEMENT FOR BIDS

Sealed bids will be received by Madison Utilities (Owner) for the following three separate projects: Western Interceptor from MH-58 to MH-97, Michli Road Sewer Replacement, and Highland Drive Water Main. Bids will be received at the Utilities Office, 101 Ray Sanderson Drive, Madison, AL until 10:00 am, prevailing time, on September 29, 2020 at which time the bids shall be publicly opened and read. Sealed bids submitted prior to the bid opening should be clearly marked on the outside of the envelope and sent to Madison Utilities Attn: Gary Sparks, 101 Ray Sanderson Drive, Madison, AL 35758. All General Contractors for the Western Interceptor project must be prequalified. The prequalification process and required submittals are included in the Specifications.

In general, the Western Interceptor project includes approximately 6,000 feet of 48" and 4,600 feet of 42" ductile iron gravity sewer up to 20' deep with manholes, bypass pumping, asphalt paving, grassing, and clean up.

In general, the Michli Road project includes approximately 940 feet of 8" ductile iron gravity sewer, 5 manholes, 51 sewer laterals, stone backfill, concrete repairs, grassing, and clean up.

In general, the Highland Drive project includes approximately 6,900' of 8" ductile iron water main with a road bore, horizontal directional drilling, air release valves, gate valves, water service lines, traffic control, grassing, and clean up.

Bid documents may be examined at the office of Engineers of the South, 2143 Arlington Blvd, Suite 3, Florence, Alabama (256)766-9430. Complete digital project bidding documents are available at www.questcdn.com. They may be downloaded for $100, $50, or $75 depending upon the project by inputting Quest project #7263974, #7263955, or #7263987 on the QuestCDN project search page. Contact QuestCDN at 952-233-1632 or info@questcdn.com for assistance and free membership registration. General Contractors who bid must obtain documents from QuestCDN.

Proposals shall be accompanied by a bid bond or a cashier's check in an amount not less than five percent (5%) of the total bid price or $10,000 payable without recourse to the Madison Utilities. Check or bid bond shall be provided as a guarantee that the Bidder will enter into a contract and execute performance and payment bonds within fourteen (14) days after Notice of Award. The successful bidder shall furnish a performance bond in the amount of 100% of the contract price and payment bond in the amount of 50% of the contract price upon the forms provided. Performance and Payment Bonds shall be from an approved surety company holding a permit from the State of Alabama to act as surety.

This project is considered a "Public Works" project and is governed by competitive bid laws as contained in Title 39 (1997) of the Alabama Code. Bidders, subcontractors, suppliers, and Bond Agents should be familiar with this code. The attention of all Bidders is called to the provisions of State law governing "General Contractor", as set forth in ALA.CODE 34-8-1, et seq. (1975), and rules and regulations promulgated pursuant thereto. The Owner reserves the right to reject any or all bids, to waive irregularities in the bids and bidding deemed to be in the best interests of the Owner, and to reject non-conforming, non-responsive, or conditional bids. No Bidder may withdraw his bid within sixty days from the date set for receiving the bids. A MANDATORY Pre-Bid Conference for all three projects is scheduled for 10:00 am, September 17, 2020, at Madison Utilities (address above).

By: Emory DeBord, General Manager

# SECTION 00 21 13 – INSTRUCTIONS TO BIDDERS

## 1. RECEIPT OF BIDS

Sealed Bids from pre-qualified Bidders who attended the mandatory Pre-Bid Conference will be received by the Owner on the date and time indicated in the Advertisement for Bids. Submission must be at the place fixed for the opening of bids at, or prior to the time specified in the Advertisement for Bids. A bid received prior to the advertised hour of opening will be kept securely, and will remain sealed until the hour of opening. Bids shall be for furnishing of all labor, tools, materials, equipment, and for doing the work of construction according to the Plans, Specifications, and Contract Documents. The officer whose duty it is to open them will decide when the specified time has arrived. Any bid received subsequent to that time will be returned unopened. The Proposals will be publicly opened and read. Any Bidder may withdraw his bid, either personally or by telephone or by written request, at any time prior to the scheduled closing time for the receipt of bids. No Bidder may withdraw his bid for a period of sixty (60) days after the scheduled closing time for receipt of bids, as set forth in the Advertisement for Bids.

## 2. PLANS AND SPECIFICATIONS

Plans, Specifications, and Contract Documents are open to public inspection at the office of the ENGINEER. Plans, Specifications, and Contract Documents will be issued from the Engineer's website or Quest Construction Data Network (CDN) to the Contractors and Suppliers in accordance with the guidelines outlined in the Advertisement for Bids.

## 3. PREPARATION OF BID

Each bid must be submitted on the prescribed Proposal Form and Unit Prices Form. The Proposal Form and Unit Prices Form shall be obtained from the Quest CDN website. All blank spaces must be filled in legibly with ink. If the unit price and the extended total of any item are not in agreement, the unit price shall govern and the extended total will be corrected to conform thereto. Erasures or other corrections on the Proposal Form or Unit Prices Form shall be initialed by the signer of the bid. All bids must be signed in ink by an individual authorized to bind the Bidder. All bids must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the Proposal by the Bidder.

Each bid must be submitted in a sealed envelope clearly marked on the outside that it contains a bid for **WESTERN INTERCEPTOR FROM MH-58 TO MH-97,** with the time and date of bid opening shown thereon. The name, address, and Alabama Contractor's License Number of the Bidder shall appear in the upper left-hand corner of the envelope. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope properly addressed as noted in the Advertisement for Bids.

There must be a bid on all items that may appear on the Unit Prices Form. No bid will be considered which covers only a part of the work. A conditional bid will not be considered.

The following is a list of the Sections that each bidder shall complete/submit with the sealed bid. These items shall be stapled together in the top left-hand corner.

- 00 42 00 – Proposal Form
- 00 43 13 – Bid Security Form
- 00 43 22 – Unit Prices Form
- 00 43 33 – Proposed Products Form
- 00 43 36 – Proposed Subcontractors Form

## 4. BALANCED BIDS; VARIATIONS IN QUANTITIES

The lump sum and unit prices for each of the several items in the Unit Prices Form from each Bidder shall be balanced and shall include its pro rata share of overhead. Quantities in the Unit Prices Form may be approximate. The Contractor shall verify all quantities for completion of the work before ordering materials. A bid that is obviously unbalanced may be rejected.

The Owner shall have the right to increase or decrease the extent of the work, to change the location or gradient, or the dimensions of any part of the work. Unless it is stated specifically in the Bid Documents for individual unit price bid items, the Owner may include, exclude or partially include portions of any work listed in the Proposal. These types of changes shall not be considered as a waiver of any conditions of the Contract nor invalidate any of the provisions thereof. The Contractor shall perform the work as increased or decreased within reasonable limits and no allowance will be made for anticipated profits or increases or decreases so incurred. These type changes in length or in money value shall not be cause for adjustment of any lump sum or unit price.

Other increases or decreases in items of work, and the cost thereof, shall be done in accordance with the applicable sections of the General Conditions (Section 00 72 00).

## 5. BID GUARANTY

No bid will be considered unless it is accompanied by the required Bid Guaranty or Bid Bond. Each Bidder must enclose with his Proposal a bid bond in the amount of not less than five percent (5%) of the total bid, but in no event more than $10,000. The payee of such bond shall be MADISON UTILITIES. A valid Power-of-Attorney shall be attached.

Bid bonds of unsuccessful Bidders will be returned upon request as soon as feasible after the opening of the bids. If a bidder to whom a contract is tentatively awarded shall refuse or neglect to execute the contract and furnish the required bonds and insurance in the amounts required within fourteen (14) days after the notice has been given him of such award (unless extended by mutual agreement in writing), his bid bond shall be forfeited to the Owner as liquidated damages for such refusal or neglect.

## 6. INTERPRETATIONS

If any person or entity contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the Plans, Specifications, or other proposed Contract Documents, he may submit a written request to the Engineers for interpretations or clarifications thereof. The persons submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made by addendum duly issued, and copied or delivered to each person receiving a set of Bid Documents. Clarifications may be made without an addendum. The Owner will not be responsible for any other explanation or interpretation of the proposed documents.

## 7. FAMILIARITY WITH LAWS

The Bidder is assumed to have familiarized himself with all state laws and with all local ordinances and regulations which, in any manner may; affect his ability to bid the project, complete the work, and impact those engaged, or employed on the work. No pleas of misunderstanding will be considered.

## 8. QUALIFICATIONS OF BIDDERS

All Bidders must be pre-qualified in accordance with Section 00 45 13, Bidder's Qualifications. The Contract award, if made, will be made to the low, responsive, responsible Bidder. A responsive bid shall be evidenced by: (1), a Complete Proposal and Proposal Form complete in accordance with the Advertisements for Bids, Instructions to Bidders, and with all instructions and/or requests contained in any other sections of the Contract Documents; (2), a Unit Prices Form not evidencing any apparent unbalanced pricing for performance of the items of work; (3), a Proposal without excisions, alterations, special conditions or qualifications made by the Bidder; and, (4), a Proposal containing no alternative bids or offerings (by inclusion, attachment, or otherwise) for any items unless such alternative bids or offers are requested in the Unit Prices, Basis of Payment, or Technical Specifications.

A responsible Bidder may be evidenced by the following facts: (1), that Bidder maintains a permanent place of business; (2), that he has adequate financial capability for meeting the obligations contingent to the work; (3), that he has adequate equipment to properly perform the work within the time limit specified; and (4), that he has a competent and experienced organization. In order to be considered for the award the Bidder shall present to the Owner satisfactory evidence that: (1), he has the necessary capital and financial resources to undertake and complete the project; (2), he has equipment, in good working order, adequate for performance of work within the time specified; (3), he has within his organization, at the time the construction management and supervisory personnel available for assignment to the project; (4), the construction management and supervisory personnel are skilled and experienced in the particular type of work to be undertaken on the project; and (5), he has performed and completed similar work of similar magnitude in a satisfactory manner. These requirements shall be in addition to any outlined in the Prequalification Process and Statement of Bidder's Qualifications if included in the Bid Documents.

## 9. AWARD OF CONTRACT OR REJECTION OF BIDS

Bids from pre-qualified Contractors will be evaluated based on the required submission of the Bid Security Form, the Proposal Form, the Unit Prices Form, the Proposed Products Form, and the Proposed Subcontractors Form. The Contract will be awarded to the most responsive and responsible Bidder submitting the lowest total Base Bid and complying with the conditions of the Advertisement for Bids and other parts of these Contract Documents. The Bidder to whom the award is made will be notified at the earliest possible date, but not later than 60 days after the opening of bids. The Owner, however, reserves the right to reject any or all bids and to waive any informality in bids received whenever such rejection or waiver is in its interests.

## 10. BONDS AND INSURANCE

Having satisfied all conditions of award as set forth elsewhere in these Documents, the successful Bidder shall, within the period specified above, furnish a surety bond in a penal sum not less than the amount of the Contract as awarded, as security for the faithful performance of the Contract, and for the payment of all persons, firms or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment, or services of any nature, including utility and transportation services employed or used by him in performing the work. The Performance Bond and the Labor and Material Bond must be countersigned by an agent whose office is located in the State of Alabama and who is authorized to do business in the State of Alabama; and a valid Power-of-Attorney shall be attached to each Bond. Such bond shall be as included in the Contract Documents and shall bear the same date as, or a date subsequent to, that of the Agreement.

Subsequent to the tentative award by the Owner the successful Bidder shall provide proof of insurance meeting the minimum requirements specified in the General and Supplementary Conditions. In the event the low bidder is unable to provide satisfactory evidence that the specified insurance requirements are being provided, the Owner may at his option, 1) provide such additional coverage naming the Contractor as additional insured, 2) reduce the amount of additional coverage required or waive any requirement for additional coverage, or 3) recover the low bidders Bid Bond and pursue an award to the next lowest bidder. If the Owner is required to purchase portions of the specified insurance coverage for the Contractor, the total contract amount shall be reduced equally.

Attention of Bidders is called to Title 39 (1997) of the Alabama Code for Public Works projects which has certain requirements pertaining to performance bonds, labor bonds, employer's liability insurance, public liability insurance, workmen's collective insurance, and property damage insurance.

All companies furnishing bid bonds and performance bonds shall furnish evidence of being on the U.S. Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the State of Alabama.

## 11. ASSIGNMENT OF CONTRACT AND SUBCONTRACTING

The Contractor shall not assign his Contract, nor any part thereof, nor any monies due, or to become due thereunder, without prior written consent of the Owner. In case the Contractor, with the consent of the Owner 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 or to any monies due or to become due to the Contractor shall be subject to prior valid claims of all persons, firms, and corporation for services rendered or materials supplied for the performance of work under his Contract.

No part of the Contract shall be sublet without the consent of the Owner. When requested prior or subsequent to award, the Contractor shall immediately submit to the Owner the names of sub-contractors whom he proposes to employ on the project.

## 12. EXECUTION OF CONTRACT

The Contract Documents shall be executed in triplicate, each counterpart of which shall be considered as an original without accounting for the absence of any of the other counterparts or copies.

## 13. SIGNATORY AND CONTRACT SUBMITTALS

The following is a list of completed forms/submittals that the apparent low bidder will be required to complete before execution and award of the contract:

- Section 00 52 00 – Agreement Form (all pages)
- Section 00 61 13 – Performance Bond Form
- Section 00 61 14 – Payment Bond Form
- Certificates of Insurance and Satisfactory Proof of Coverage and Third-Party Insurance

**END OF SECTION**

**SECTION 00 42 00 – PROPOSAL FORM**

Place: Madison Utilities

Date: _____

Proposal of _____,

a corporation organized and existing under the laws of the State of _____

_____

or

Proposal of _____,

a partnership consisting of _____

or

Proposal of _____,

an individual doing business as _____

To: MADISON UTILITIES

This bid results from your advertisement for bids for the construction of the **WESTERN INTERCEPTOR FROM MH-58 TO MH-97.**

The undersigned Bidder, having visited the site of the work, having examined the Plans, Specifications, and other Contract Documents including all Addenda, and being familiar with all of the conditions relating to the construction of the proposed project, hereby agrees to comply with all other conditions or requirements set forth in the Plans, Specifications, and other Contract Documents, and further proposes to; furnish all material, supplies, equipment, and appliances; to furnish all labor, tools, equipment and incidentals to complete the work in accordance with the Plans, Specifications, and other Contract Documents at and for the lump sum and unit prices proposed in the attached Unit Prices Form.

The undersigned Bidder agrees to begin work within fourteen (14) calendar days after the issuance by, or on behalf of, the Owner of a "Work Order" or "Notice to Proceed" and to complete the work within the consecutive calendar days specified in the Supplementary Conditions, Article 6 (except as modified in accordance with the GENERAL CONDITIONS of these Contract Documents). Should the work fail to be completed within the time herein stated, the Contractor shall pay to the Owner, Liquidated Damages, for each day of delay until the work is completed and accepted, as stipulated in the GENERAL AND SUPPLEMENTARY CONDITIONS of these Contract Documents. It is understood that additional time for the completion of the project is to be allowed only for delays as stipulated in the GENERAL AND SUPPLEMENTARY CONDITIONS of these Contract Documents.

Bidder acknowledges receipt of the following addendum (addenda):

_____ and _____

_____ and _____

_____ and _____

The undersigned Bidder agrees that this bid shall be good and shall not be withdrawn for a period of sixty (60) calendar days after the opening thereof. If written notice of the acceptance of this Proposal is mailed, telegraphed, or delivered to the undersigned within sixty (60) days after the opening thereof, or at any time thereafter before this Proposal is withdrawn, the undersigned agrees to execute and deliver an Agreement (Contract) in the prescribed form, and furnish the required Performance and Payment Bond, within fourteen (14) days after the Agreement is presented to him for signature.

It is understood by the undersigned Bidder that the Owner reserves the right to reject any or all bids.

Accompanying this Proposal as bid security is a certified check/bid bond (*strike one*)

in the amount of _____Dollars ($_____), being not less than five percent (5%) of the total amount of the bid not to exceed $10,000. If the undersigned Bidder is the successful Bidder, but fails or refuses to execute the contract and furnish the required bonds and insurance within the prescribed fourteen (14) days of the notification of award, then this bid security is to become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused by such failure or refusal.

_____ _____

(Witness) (Name of Bidder)

_____ By _____

_____ _____

(Address) (Print Name and Title)

_____

_____

(Office Address of Bidder)

SEAL (If Bidder is a corporation)

NOTES: Sign in ink. Do not detach.
Items must be bid upon as specified in the Unit Prices Form.

**SECTION 00 43 13 – BID SECURITY FORM**

KNOW ALL MEN BY THESE PRESENTS:

THAT we the undersigned, _____

_____, as PRINCIPAL, and _____

_____, as SURETY, are held and firmly bound unto MADISON UTILITIES hereinafter called the OWNER in the penal sum of

_____ Dollars ($_____), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these Presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT WHEREAS, the Principal has submitted the accompanying Proposal, dated _____for the **WESTERN INTERCEPTOR FROM MH-58 TO MH-97.**

NOW, THEREFORE, if the Principal shall not withdraw said Proposal within sixty (60) days after the opening of same, and shall within fourteen (14) days after the prescribed forms are presented to him for signature, enter into a written Contract with the Owner in accordance with the Proposal as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument, under their several seals this _____ day of _____, 2020, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

SEAL

_____

_____
(Principal)

By_____

_____ _____
(Witness) (Title)

_____ _____

_____ _____
(Address)

SEAL

_____

_____ _____
(Corporate Surety)

By_____

_____

_____
(Address)

NOTE: Power-of-attorney for person signing on behalf of surety company must be attached to bond.

**SECTION 00 43 22 – UNIT PRICES FORM**

**MADISON UTILITIES**
**WESTERN INTERCEPTOR FROM MH-58 TO MH-97**

| Item | Description | Qty | Unit | Unit Price | Total |
|---|---|---|---|---|---|
| 1 | Mobilization, Bonds, & Insurance | 1 | LS | $150,000 | $150,000 |
| 2 | Clearing and Grubbing | 1 | LS | | |
| 3 | Temporary Erosion Control | 1 | LS | | |
| 4 | Bypass Pumping | 1 | LS | | |
| 5 | Rock Excavation | 2,000 | CY | | |
| 6 | 42” Class 150 Ductile Iron Gravity Sewer | 3,420 | LF | | |
| 7 | 42” Class 300 Ductile Iron Gravity Sewer | 1,100 | LF | | |
| 8 | 48” Class 150 Ductile Iron Gravity Sewer | 4,540 | LF | | |
| 9 | 48” Class 200 Ductile Iron Gravity Sewer | 1,480 | LF | | |
| 10 | Railroad Tunnel Liner Pipe Replacement with 80’ of 42” DR21 DIPS HDPE Gravity Sewer, MJ Adapter, and DI Sleeve | 1 | LS | | |
| 11 | 72” Manholes | 33 | EA | | |
| 12 | Manhole Demolition on Abandoned Sewer Lines | 7 | EA | | |
| 13 | 48” RCP Ditch Crossing with Headwalls | 1 | LS | | |
| 14 | Asphalt Paving | 300 | SY | | |
| 15 | Traffic Control | 1 | LS | | |
| 16 | Testing, Start-up, & Restoration of Project Areas | 1 | LS | $100,000 | $100,000 |

**Total Base Bid** _____

**0SECTION 00 43 24 - BASIS OF PAYMENT**

**MADISON UTILITIES**
**WESTERN INTERCEPTOR FROM MH-58 TO MH-97**

The following sections summarize the intent of the bid documents for providing a basis of payment for all work required to complete the project. Descriptions correspond to the numbering in the Unit Prices Form. Any misinterpretations of these descriptions evident in the Contractor's proposal as an "unbalanced" bid shall be basis for considering the bid unresponsive. As described in the Instructions to Bidders Section, the Owner reserves the right to reduce quantities and/or completely remove bid items from the work. The estimates of work listed in the Unit Prices Form are to be considered only approximate quantities of items and are to be used as a basis for comparing bids. The Owner does not guarantee that the approximate quantities or allowances given will hold in the construction of the work. Final Payment will be made for actual quantities of the work performed as approved by the Engineer, at the contract prices bid. Should the quantities of the pay items be more or less than the quantities estimated, the contract unit prices bid in the Proposal will prevail.

## BID ITEMS

### Item 1 – Mobilization, Bonds, & Insurance

The Contract Lump Sum Price shall be the cost allowed by the Owner for mobilization of Contractor's forces, bonding the Project, and providing the specified Project insurance. The cost includes portions or the entire Contractor's cost for setting up of Contractor's forces, equipment, and personnel movement. The price established by the Owner is an allowance for the Contractor and will be paid upon completion of mobilization. Any costs the Contractor may have above the allowances to complete these Items shall be evenly distributed and included in the remaining Bid Items. Payment for this item shall not exceed the original contract amount bid regardless of the fact that the Contractor may have, for any reason, shut down his work on the project, moved equipment away from the project and then back again, or for additional quantities or items of work added to the contract.

### Item 2 – Clearing and Grubbing

The Contract Lump Sum Price shall be payment in full for the furnishing of all labor, materials, and equipment necessary to complete the clearing and grubbing as required in preparation for sewer installation.

### Item 3 – Temporary Erosion Control

The Contract Lump Sum Price shall be payment in full for the furnishing of all labor, materials, and equipment necessary to provide and maintain erosion control throughout the duration of the project. Contractor shall be responsible for the design and maintenance of all erosion and sediment control systems. Bid prices shall include, but not be limited to: obtaining and implementing an ADEM Stormwater Permit, silt fence, hay bales, temporary seeding, temporary mulching, temporary pipe, temporary wire fence (including posts), polyethylene, sand bags, erosion control check dams, temporary riprap, and drainage sump excavation. The lump sum price coverage for items listed shall be full compensation for furnishing all materials, the construction and/or installation of the materials into

complete erosion control measures, and shall include all equipment, tools, labor, and incidentals necessary to complete the work, and maintain it in an acceptable condition as long as deemed necessary by the Engineer. Contractor shall then remove all items and restore the areas.

**Item 4 – Bypass Pumping**

The Contract Lump Sum Price Bid shall be payment in full for the furnishing of all labor, temporary materials, and temporary equipment necessary to provide bypass pumping as required during construction. Bid prices shall include but not be limited to: temporary connections or manholes for by-pass pumping; temporary or permanent plugs for lines; temporary pumps, piping, and valves; telemetry monitoring system; and all incidentals necessary and required to complete the work satisfactory to the Owner and Engineer. Partial payments will be made on this item based on the installed percentage of the gravity sewer.

**Item 5 – Rock Excavation**

The Contract Unit Price per cubic yard shall be payment in full for the furnishing of all labor, materials, equipment, and all incidentals necessary to complete all of the rock excavation for the project. Standard rock excavation shall include, but is not limited to: disposal of excess materials, water management, blasting, and fine grading for all pipelines, structures, ditches, and incidentals required to complete the rock excavation.

Rock excavation shall consist of the loosening, removing, and disposing of all rock, solid limestone, or sandstone in original bed, in well-defined ledges, or in boulder form. It shall include all solid rock which cannot be removed until loosened by blasting or use of a track excavator mounted ram hoe. Boulders having a volume of more than one cubic yard shall be classified as rock. Material that can be loosened, separated, or ripped by means of heavy duty power tools or excavating equipment shall not be classified as rock. Unless identified in the Plans for use in the work or disposal on the site, all excavated rock shall be disposed of by the Contractor.

Where rock is the supporting material for pipes or structures, the Contractor shall expose and clean all foundation areas as required for inspection and evaluation of bearing conditions. All rock seams, voids, or fissures in the exposed areas shall be filled with crushed stone of suitable gradation.

Measurement of rock shall be made after other material has been removed. In trench work, sections not less than 50 feet shall be stripped for measurement. Rock shall be measured having vertical sides, extending 18 inches beyond the outside of the pipe or manhole extending no further than the bottom of the pipe bedding or crushed stone cushion required below manholes or the bottom of the rock layer. Pay is based on rock excavation with no pay for embankment, double haul, or double handling.

**Items 6 through 9 – 42" or 48" Ductile Iron Gravity Sewer with V-Bio Polyethylene Pipe Encasement and Protecto 401 or Tnemec Series 431 PL Lined (Various Classes)**

The Contract Unit Price per linear foot shall be payment in full for the furnishing of all labor, materials, and equipment necessary to completely construct the gravity sewers to the alignment and grades shown in the Plans. Bid prices shall include but not be limited to: all sewer line installations; excavation; bedding; pipe; V-Bio polyethylene pipe encasement; removal of existing pipe; stone bedding; backfilling; stone backfill in roadways; clay ditch checks; concrete caps; temporary connections or

manholes for by-pass pumping; temporary or permanent connections to existing sewers; temporary or permanent plugs for lines; protection and/or replacement of all existing utilities and structures; compaction of trenches; dewatering; water management; replacement of any damaged property; setting of alignment and grade; and all incidentals necessary and required to complete the work satisfactory to the Owner and Engineer.

**Item 10 – Railroad Tunnel Liner Pipe Replacement with 80' of 42" DR21 DIPS HDPE Gravity Sewer, HDPE Mechanical Joint Adapter, and Ductile Iron Sleeve**

The Contract Lump Sum Price shall be payment in full for the furnishing of all labor, materials and equipment, shoring, dewatering, removal of existing pipe, and grout, spacers, end seals, and HDPE pipe as indicated on the Plans, and any and all incidentals necessary to complete the crossing satisfactorily and acceptable to the agencies having jurisdiction over the crossing (see Railroad Permit in Appendix D), the Engineer, and the Owner.

**Item 11 – 72" Manholes**

The Contract Unit Price Bid per each shall be payment in full for the furnishing of all labor, materials, and equipment necessary to completely construct the manholes on the alignment and grades shown in the Plans. Bid prices shall include but not be limited to: removal of existing manholes to be replaced; all manhole sections; vents (if shown on plans); manhole steps; flexible pipe connectors; rings and covers; connecting to existing sewers (with ductile iron spool piece and long body sleeve if required); all excavation; backfilling; protection and/or replacement of all existing utilities and structures; compaction of all backfill materials; replacement of any damaged property; traffic control; and all incidentals necessary and required to complete the work satisfactory to the Owner and Engineer.

**Item 12 – Manhole Demolition on Abandoned Sewer Lines**

The Contract Unit Price per each shall be payment in full for the furnishing of all labor, equipment, and material for the manhole demolition in accordance with the plans and specifications. The Contract Unit Price shall include but not be limited to: concrete; grout plugs; stone backfill; partial manhole removal; and all incidentals necessary and required to complete the work satisfactory to the Owner and Engineer.

**Item 13 – 48" Reinforced Concrete Pipe Ditch Crossing with Precast Concrete Headwalls**

The Contract Unit Price per each shall be payment in full for the furnishing of all labor, equipment, and material for the permanent ditch crossing in accordance with the plans and specifications. The Contract Unit Price shall include but not be limited to: RCP pipe; precast headwalls; stone backfill; rip rap; and all incidentals necessary and required to complete the work satisfactory to the Owner and Engineer.

**Item 14 – Asphalt Paving**

The Contract Unit Price per square yard shall be payment in full for the furnishing of all labor, materials, and equipment necessary to remove the existing asphalt pavement for the sewer installations

and repair it as soon as practical following installation. Repairs shall be made per the details in the Plans. Contractor shall be solely responsible for making any temporary repairs if needed for the safety of the public traveling through the project areas. This item shall include the crushed asphalt, aggregate pavement base (4" to 8") per the detail in the Plans, and filter fabric required under the base.

**Item 15 - Traffic Control**

The Contract Lump Sum Price shall be payment in full for the furnishing of all labor, equipment, and material for developing, implementing, and maintaining traffic control throughout the project. The Contractor shall provide traffic control as required for safety and maintained access to all businesses and residences.

**Item 16 – Testing, Start-Up, & Restoration of Project Areas**

The Contract Lump Sum Price shall be the cost allowed by the Owner for furnishing completed and operable sewers which have successfully passed all tests and been approved by all authorities for use by the Owner. The price in this Item represents an allowance that is established by the Owner and used by all Contractors bidding the project. The amount of money written in this Item will be paid the Contractor when the entire project is complete and all landscaping, site work, drainage work, repairs and final cleanup of project site have been accomplished. Since all components of the proposed improvements and cleanup are an integral part of the entire project needed by the Owner, partial payment will not be allowed on this Item.

## SECTION 00 43 33 – PROPOSED PRODUCTS FORM

## MADISON UTILITIES
## WESTERN INTERCEPTOR FROM MH-58 TO MH-97

Bidders submitting a bid proposal are required to fully complete the following list of Material Suppliers and Equipment Manufacturers for their Bid. If this information is not clearly and properly provided, this will be grounds for the Owner to disqualify the Bidder for not being responsive. When a single Material Supplier or Equipment Manufacturer is listed as the "Base", the Contractor shall furnish that Material Supplier and/or Equipment Manufacturer. When two or more Materials Suppliers and/or Equipment are listed as the "Base", the Contractor must circle the Material Supplier or Equipment Manufacturer that will be furnished. When an item is blank, the Contractor shall write in the Material Supplier or Equipment Manufacturer to be furnished under the Base Bid Unit Price Schedule proposal. In every case, only one Material Supplier or Equipment Manufacturer shall be circled or listed for each material or equipment items. Unless a substitute is accepted as outlined below, the Contractor shall furnish and install the product of the Material Supplier or Equipment Manufacturer as he indicates herein.

Where the List of Material Suppliers and Equipment Manufacturers provides for substitute material suppliers and/or equipment manufacturers, the Bidder may, but is not required to, write in or circle a substitute material supplier or equipment manufacturer. The bidder shall write in the amount of price reduction for the use of each such substitute indicated. In every case, only one substitute Material Supplier or Equipment Manufacturer shall be written in or circled for each material or equipment item. The Contractor must provide submittal data detailing the substitute offering for comparison to the specifications. When a substitute Material Supplier or Equipment Manufacturer is offered by the Contractor and accepted by the Owners, the Contractor shall furnish and install the product of that Material Supplier or Equipment Manufacturer.

The award of the Contract will be based on the Contractor's completed Material Supplier(s) and/or Equipment Manufacturer(s) unless there are provisions for alternate deducts in the Basis of Payment and Unit Price Schedules. No substitute equipment or material shall be accepted unless it is approved by the Owner. The Contractor shall furnish and install the base materials or equipment he has indicated for any or all of the substitutes rejected.

If the information required above is not clearly and properly provided, this will be grounds for rejecting that bidder. Failure to furnish and install the indicated base or indicated and approved substitute material and equipment from the suppliers and manufacturers shall constitute default of the Contract.

The Bidder further certified that if his bid is accepted, the Material Suppliers and Equipment Manufacturers he has indicated herein will be awarded contracts for supply of their products unless deductive alternates are provided as specified herein and approved by the Owner. The Bidder further certifies that deductive alternate Material Suppliers and Equipment Manufacturers which Bidder has properly indicated and which are approved by the Owner will be awarded contracts for supply of their products.

Contractor _____ By _____

Date _____

**LIST OF MATERIAL SUPPLIER(S) AND EQUIPMENT MANUFACTURER(S)**
**BASE BID ITEMS**

**Material or Equipment**

Name of Supplier or Manufacturer (Circle One)

---

**Section 33 05 13 – Manholes and Structures**

Base: Barger Precast; Foley Products; or Shaddix

Alternate:_____ Deduct: $ _____

---

**Section 40 23 50 – Ductile Iron Pipe and Accessories**

Base: American Pipe; or US Pipe

Alternate:_____ Deduct: $ _____

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## SECTION 00 43 36 – PROPOSED SUBCONTRACTORS FORM

**MADISON UTILITIES**
**WESTERN INTERCEPTOR FROM MH-58 TO MH-97**

Contractors submitting a proposal are required to fully complete the following List of Subcontractors for their bid. Excluding portions of the work completed by the electrical subcontractor, General Contractors shall perform at least 50 percent of the work (materials not included) with his own forces (refer to Contract Documents).

Contractors submitting a proposal are required to list in the spaces provided the name of each of the subcontractors they will use if awarded the Contract. No substitutions will be allowed without approval of the Owner. The Bidder shall list the names of major subcontractors. If all the information is not provided with the bid, this will be grounds for the Owner to disqualify the Bidder for not being responsive.

| **ITEM OF WORK** | **SUBCONTRACTOR'S NAMES** |
|---|---|
| Bypass Pumping | _____ |
| Asphalt Paving | _____ |
| Landscaping | _____ |
| Traffic Control | _____ |
| Other: _____ | _____ |

Note: If the Contractor will not use a subcontractor for an Item of Work, he shall write "None" in the blank for the Subcontractor for that Item of Work.

If the Bidder does not write in the name of a Subcontractor, he shall submit with his bid detailed evidence satisfactory to the Engineer that he has sufficient personnel experienced in that trade on his full time staff to perform that item of work on this project. Failure to submit such satisfactory evidence with the Bid, or the submission of inaccurate, misleading, or incorrect information, will be grounds for the Owner to disqualify the Bidder for not being responsive.

The Bidder certifies that if his bid is accepted, the above subcontracting firms or businesses will be awarded subcontracts for the above portions of the work and the subcontract amount will not exceed 50% of the work (materials not included).

Contractor _____ By _____

Date _____

# SECTION 00 45 13 – BIDDER'S QUALIFICATIONS

## I. GENERAL INFORMATION

Madison Utilities (the Owner) is soliciting prequalification packages from General Contractors interested in submitting bids for construction of the planned Western Interceptor from MH-58 to MH-97. General Contractors that pre-qualified for the Western Interceptor from MH-97 to MH-127 project are considered Pre-Qualified once they purchase bid documents and are not required to submit for this project.

The purpose of the mandatory pre-qualification process is to achieve a reasonable degree of assurance that the bidders are capable of successfully completing the project according to the drawings, specifications, and schedules. This process is intended to provide for competitive bidding among qualified, responsible bidders and for the successful bidder to become the General Contractor for the project.

It is the intent of the Owner to prequalify Contractors in accordance with Code of Alabama 39-2-4 Paragraph and subsection (a) of Section 39-2-2. The Owner reserves the right to reject any pre-qualification application which is not responsive or considered to be in the best interest of the Owner.

## II. MANDATORY PRE-QUALIFICATION PROCESS

This is a MANDATORY PRE-QUALIFICATION PROCESS. All interested, responsible, licensed General Contractors who have successful recent experience with projects with similar requirements are encouraged to respond. The minimum acceptable submittal requirements are as follows:

1. Completion of the attached Statement of Bidders Qualifications, with required attachments.
2. A minimum of 5 years of company/corporate experience with municipal water and wastewater projects.
3. Documentation of projects of a similar scope and nature, including a description of the work, the dollar value of the contract, time for construction, status of project, owner's and engineer's name and phone numbers.
4. For Madison Utilities projects (past or present), the contractor must not have been assessed liquidated damages, must not have completed a project substantially behind schedule, or must not have withdrawn a bid (with or without bond forfeiture) over the past 5 years.

Incomplete Questionnaires may be deemed non-responsive, and may result in failure of applicant to pre-qualify. Pre-Qualification of a Contractor does not imply that any bid submitted by a pre-qualified Contractor automatically qualifies as "responsive and responsible." The Owner reserves the right to act in his best interest in this determination process and to waive all technicalities and informalities in order to qualify the best responsible general contractors who comply with the provisions of this document.

All questions should be directed to the Engineer at craig@engineersofthesouth.com. Pre-Qualification Packages must be submitted by e-mail no later than 15 days prior to bid opening to:

**Madison Utilities**
**c/o Engineers of the South, LLC**
**2143 Arlington Blvd, Suite 3**
**Florence, AL 35630**
**craig@engineersofthesouth.com**

III. STATEMENT OF BIDDERS QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. If necessary, questions may be answered on separate attached sheets.

1. Name of Bidder with permanent main office address.

2. When organized. If a corporation, where incorporated.

3. How many years have been engaged in the contracting business under your present firm or trade name?

4. Are you properly licensed as a General Contractor in the State of Alabama?

5. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion).

6. Have you completed (or are you currently working on) at least 5 municipal water or wastewater line work projects of 24" and greater diameter and a minimum total project cost of at least $1,000,000 in the past 15 years?

7. Has your organization failed to complete any project or been terminated from any project in the past 10 years? If so, attach details on a separate sheet for each occurrence.

8. Has your organization abandoned a project, even temporarily, during a dispute? If so, attach details on a separate sheet for each occurrence.

9. Has your organization been assessed liquidated damages by an Owner for which it has performed work in the past 5 years? If so, attach details on a separate sheet for each occurrence.

10. Has your organization filed for bankruptcy or been judged bankrupt at any time over the past 10 years?

11. Has your organization filed any lawsuits or claims against any Owner or Engineer in the past 10 years? If so, attach details on a separate sheet for each occurrence.

12. The Bidder shall provide a brief description of any litigation or administrative proceeding of the following types, either pending or concluded within the past 10 years, to which the Bidder (and the ultimate controlling person, if different from the Bidder) or any of its directors or executive officers was a party or of which the property of any such person is or was the subject; the names of the parties and the court or agency in which such litigation or proceeding is or was pending shall be given:
    (a) Administrative or judicial proceedings of any state federal agency or authority concerning environmental violations;
    (b) Proceedings which may have a material effect upon the solvency of the ultimate holding company, including but not necessarily limited to, bankruptcy and receivership; and
    (c) Criminal proceedings.

## SECTION 00 50 00 – NOTICE OF AWARD

To: _____

_____

_____

PROJECT Description: Madison Utilities

Western Interceptor from MH-58 to MH-97

The OWNER has considered the BID submitted by you on _____, 2020, for the above described WORK in response to its Advertisement for Bids and Information for Bidders. You are hereby notified that your BID has been accepted for items in the amount of _____.

You are required by the Instructions to Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND, certificates and proof of insurance within fourteen (14) calendar days from the date of this Notice to you. If you fail to execute said Agreement and to furnish said BONDS and INSURANCE within fourteen (14) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of you BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

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

Dated this _____day of _____, 2020.

Madison Utilities

By _____

Name _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby

Acknowledged by _____

This the _____ day of _____ , 2020

Name _____

Title _____

**SECTION 00 52 00 – AGREEMENT FORM**

THIS AGREEMENT made this _____ day of _____, 2020 , by and Between

_____ a Corporation organized and existing under the laws of the State of Alabama hereinafter called the "Contractor", and Madison Utilities, hereinafter called the "Owner".

W I T N E S S E T H:

That the Contractor and the Owner for the consideration stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment, incidentals and services, including utility and transportation services and perform and complete all work required for the **WESTERN INTERCEPTOR FROM MH-58 TO MH-97**, in strict accordance with the Contract Documents, including all ADDENDA thereto numbered:

_____ dated _____, and
_____ dated _____,

as prepared by the Engineer.

ARTICLE 2. The Contract Price. The Owner will pay the Contractor, because of his performance of the Contract, for the total quantities of work performed at the lump sum and unit prices stipulated in the Contractor's Bid Proposal subject to additions, and deductions as provided for in the GENERAL CONDITIONS and SUPPLEMENTARY CONDITIONS.

ARTICLE 3. Contract Time. The Contractor agrees to begin work within fourteen (14) calendar days after issuance by the Owner of a written "Notice to Proceed" and to complete the work within 365 consecutive calendar days thereafter except as may be modified by mutual agreement between the Contractor and the Owner. If the Contractor shall fail to complete the work within the time specified, he and his Surety shall be liable for payment to the Owner, as liquidated damages ascertained and agreed, the amount specified in both the GENERAL and SUPPLEMENTARY CONDITIONS of these Contract Documents for each day of delay. To the extent sufficient in amount, liquidated damages shall be deducted from the payments to be made under this Contract.

ARTICLE 4. Contract. The executed Contract Documents shall consist of the following:

a. Executed Agreement
b. Addenda (if any)
c. Advertisement for Bids
d. Instructions to Bidders
e. Proposal Form
f. Unit Prices Form
g. Basis of Payment
h. Proposed Products Form
i. Proposed Subcontractors Form
j. General Conditions
k. Supplementary Conditions
l. Technical Specifications
m. Drawings and Appendices
n. Performance and Payment Bonds
o. Certificates and Proof of Insurance

This Agreement, together with other Documents enumerated in this Article 4, which said other Documents are as fully a part of the Contract as if hereto attached or herein repeated, form the Contract between the parties hereto. In the event that any provisions in any component part of this Contract conflicts

with any provision of any other component part, the conflict shall be resolved by the Engineer whose decision shall be final.

ARTICLE 5. Surety. The Surety on the Performance-Payment Bond shall be a surety company of financial resources satisfactory to the Owner, authorized to do business in the State of Alabama. Any surety executing such Bond must appear on the U.S. Treasury Department's most current list (Circular 570, as amended) and be authorized to transact business in the State of Alabama.

ARTICLE 6. Immigration Law Compliance Statement. By signing this contract, the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment or continue to employ an unauthorized alien within the state of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in three (3) counterparts, each of which shall be considered an original on the day and year first above written.

_____
(Contractor)

ATTEST _____ By _____

Name _____

Title _____

Madison Utilities

ATTEST _____ By _____

Name _____

Title _____

**SECTION 00 55 00 – NOTICE TO PROCEED**

To: _____ Date: _____

_____

_____

PROJECT Description: Madison Utilities

Western Interceptor from MH-58 to MH-97

You are hereby notified to commence WORK in accordance with the Agreement dated _____, on or before the START DATE of _____, and you are to complete the WORK in 365 consecutive calendar days. The date of completion of all WORK is therefore _____.

Madison Utilities

By _____

Name _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby

Acknowledged by _____

This the _____ day of _____ , 2020

Name _____

Title _____

## SECTION 00 61 13 – PERFORMANCE BOND FORM

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, _____

as Principal, hereinafter called "Principal", and _____

_____, State of _____, as

Surety, hereinafter called "Surety", are held and firmly bound unto the MADISON UTILITIES, as Obligee, hereinafter called "Owner", in the amount of:

_____ Dollars ($_____),
in lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal entered into a Contract with the Owner by written agreement dated the _____day of _____, 2020, a copy of which is attached hereto and made a part hereof, hereinafter referred to as the Contract,

**MADISON UTILITIES**
**WESTERN INTERCEPTOR FROM MH-58 TO MH-97**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract, including without limitation the maintenance warranty thereof, during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

Any alterations which may be made in the terms of the Contract, or in the work to be done under it, or the giving by the Owner of an extension of time for the performance of the Contract, or any other forbearance on the part either of the Owner or the Principal to the other shall not release in any way the Principal and Surety, or either of these, their heirs, personal representatives, successors, or assigns from their liability hereunder, notice to the Surety of any alteration, extension or forbearance hereby being waived.

In no event shall the aggregate liability of the Surety exceed the sum set out herein.

This bond is executed pursuant to the terms of Title 39 (1997) of the Alabama Code for Public Works projects which has certain requirements pertaining to performance bonds, labor bonds, employer's liability insurance, public liability insurance, workmen's collective insurance, and property damage insurance.

Executed on this _____ day of _____, 2020.

_____
(Principal)

SEAL

By _____

Title _____

_____
(Surety)

SEAL

By _____
Attorney-In-Fact

NOTES: Attach Power of Attorney.
Date of Bond must not precede date of Contract.
A copy of this Bond must be filed with the Circuit Clerk in each county wherein the work is to be performed.

## SECTION 00 61 14 – PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, _____

as Principal, hereinafter called "Principal", and _____

_____, State of _____, as

Surety, hereinafter called "Surety", are held and firmly bound unto the MADISON UTILITIES, as Obligee, hereinafter called "Owner", in the amount of:

_____ Dollars ($_____),
in lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal entered into a Contract with the Owner by written agreement dated the _____day of _____, 2020, a copy of which is attached hereto and made a part hereof, hereinafter referred to as the Contract,

**MADISON UTILITIES**
**WESTERN INTERCEPTOR FROM MH-58 TO MH-97**

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor performed in such work, whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

Any alterations which may be made in the terms of the Contract, or in the work to be done under it, or the giving by the Owner of an extension of time for the performance of the Contract, or any other forbearance on the part either of the Owner or the Principal to the other shall not release in any way the Principal and Surety, or either of these, their heirs, personal representatives, successors, or assigns from their liability hereunder, notice to the Surety of any alteration, extension or forbearance hereby being waived.

In no event shall the aggregate liability of the Surety exceed the sum set out herein.

This bond is executed pursuant to the terms of Title 39 (1997) of the Alabama Code for Public Works projects which has certain requirements pertaining to performance bonds, labor bonds, employer's liability insurance, public liability insurance, workmen's collective insurance, and property damage insurance.

Executed on this _____ day of _____, 2020.

_____
(Principal)

SEAL

By _____

Title _____

_____
(Surety)

SEAL

By _____
Attorney-In-Fact

NOTES: Attach Power of Attorney.

Date of Bond must not precede date of Contract.

A copy of this Bond must be filed with the Circuit Clerk in each county wherein the work is to be performed.

## SECTION 00 71 00 – CONTRACTING DEFINITIONS

Wherever the words, forms, or phrases defined or pronouns used in their stead occur in the Specifications, in the Contract, in the Advertisement, or any document or instrument herein contemplated or to which these Specifications apply, the intent and meaning shall be construed and interpreted as follows:

1. **Abbreviations:** The following organizations are referred to in these Specifications by abbreviations of their titles:
   a. AASHTO - American Association of State Highway and Transportation Officials
   b. ANSI - American National Standards Institute
   c. ASA - American Standards Association
   d. ALDOT - Alabama Department of Transportation
   e. ASTM - American Society for Testing and Materials
   f. ADEM - Alabama Department of Environmental Management
   g. AWWA - American Water Works Association
   h. EPA - U. S. Environmental Protection Agency
   i. NEMA - National Electrical Manufacturers Association
   j. OSHA - Occupational Safety and Health Administration
2. **Addenda:** Any change in Plans and/or Specifications after advertisement for bids has commenced will be made by addenda, with appropriate supplemental Plans and/or Specifications issued to all BIDDERS. After issuance, any addenda shall become a part of the Contract Documents as much as though fully contained therein.
3. **Advertisement:** A public announcement inviting bids for Work to be performed and materials to be furnished.
4. **Bid:** The offer or Proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
5. **Bid Bond:** The approved form of security furnished by the Bidder and his surety, with the Proposal, as a guarantee that the Bidder will enter into an agreement with the Owner for construction of the Work should the Contract be awarded to him.
6. **Bidder:** Any individual, firm, partnership, or corporation submitting a Bid for the advertised Work.
7. **Calendar Days:** Every day shown on the calendar, beginning and ending at midnight, including Sundays and holidays.
8. **Change Order:** A written order to the Contractor covering changes in the Plans, Specifications, or Proposal quantities and establishing the basis of payment and Contract time adjustment, if any, for the Work affected by such changes.
9. **Contract:** The written agreement between the Owner and the Contractor covering the performance of the Work.
10. **Contract Documents**: The Contract, including Advertisement for Bids, Proposal, Contractor Performance Requirements, Supplementary Conditions, Technical Specifications , Agreement, Bonds, Plans, Notice of Award, Notice to Proceed, Addenda, if any, and all approved Change Orders.
11. **Contractor:** The individual, firm, partnership, or corporation selected by the Owner as the successful Bidder who has become a party to the Contract, and his duly authorized representatives for performance of prescribed Work.
12. **Contract Time:** The number of calendar days or working days, stated in the Proposal, allowed for completion of the Contract, including authorized time extensions. If a calendar date of completion is stated in the Proposal, in lieu of a number of calendar or working days, the Contract shall be completed by that date.
13. **Employee:** Any person working on the project to which these Specifications apply and who is under the direction or control of, and receives compensation from, the Contractor or subcontractors.

14. **Engineer:** An authorized agent of the Owner assigned to make interpretation and enforcement of the Plans and Specifications; approve submittals, generally oversee the quality and progress of the Work; and determine the amount, quantity, acceptability, and fitness of the Work; as specified in the Plans and Specifications.
15. **Extra Work:** An item of Work not provided for in the awarded Contract as previously modified by change order, but which is found by the Engineer to be necessary to complete the Work within the intended scope of the Contract as previously modified.
16. **Inspector:** An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the Work performed, or of the materials furnished or being furnished by the Contractor.
17. **Laboratory:** The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.
18. **Mainline Sanitary Sewer:** A pipe or conduit which is closed and not flowing full, which is intended to carry only sanitary or sanitary and industrial wastewater from residences, commercial buildings, industrial parks, and institutions.
19. **Major and Minor Contract Items:** A major Contract item shall be any item that is listed in the Bid Proposal Form, the total cost of which is equal to or greater than ten percent (l0%) of the total amount of the awarded Contract. All other items shall be considered minor Contract items.
20. **Materials:** Any substance specified for use in the Contract Work and its appurtenances
21. **Notice of Award:** The written notice of the acceptance by the Owner of the successful Bidder's Proposal.
22. **Notice to Proceed:** The written notice issued by the Owner to the Contractor authorizing him to proceed with the Contract Work and establishing, when applicable, the date of commencement and termination of the Contract Time.
23. **Or Equal:** Wherever a particular process, material, device, detail or part is specified herein, followed by these words or by similar or equivalent expressions, such words or expressions shall be understood to mean and permit the use of another process, material, device or part that the Engineer shall determine is fully equal in suitability, quality, durability, performance, and in all other respects, to the process, material, device, detail, or part herein specified for such use, and shall approve for such use in the Work.
24. **Owner:** The term "Owner" shall mean awarding authority for the project.
25. **Pay Item:** A specifically described unit of Work for which a price is provided in the Contract.
26. **Payment Bond:** The approved form of security furnished by the Contractor and his Surety as a guarantee that he will pay in full all bills and accounts for materials and labor used in the construction of the Work.
27. **Performance Bond:** The approved form of security furnished by the Contractor and his Surety as a guarantee that the Contractor will complete the Work in accordance with all Contract documents.
28. **Plans:** The official Contract drawings or exact reproduction thereof which show and describe the Work to be done and which are to be considered as a part of the Contract, supplementary to the Specifications.
29. **Project:** The agreed Work to be performed as provided in the Contract.
30. **Proposal:** The written and signed statement of the Bidder submitted on the prescribed form setting forth the prices to perform the contemplated Work and furnish the necessary materials in accordance with the provisions of the Plans and Specifications.
31. **Bid Proposal Form:** The prescribed form on which the offer of a Bidder is to be submitted.
32. **Proposal Guaranty:** The certified check or Bid Bond furnished with a bid to assure that the Bidder will enter into the Contract if his bid is accepted.
33. **Resident Project Representative:** An authorized representative of the Owner who is assigned to observe the construction of the Work and advise the Owner of the Work's prosecution.
34. **Samples:** Physical examples which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

35. **Sanitary Sewer Service Lateral:** Any pipe connected to a mainline sewer which carries sanitary and industrial wastewater from residences, commercial buildings, industrial facilities, and institutions to the mainline sanitary sewer.
36. **Sanitary Sewer:** A sewer which carries wastewater.
37. **Shop Drawings:** All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by the Contractor, a subcontractor, manufacturer, supplier, or distributor, which illustrates how specific portions of the Work shall be fabricated, erected, or installed.
38. **Supplementary Conditions:** Additions and revisions to the Standard Specifications applicable to an individual project. The Supplementary Conditions are intended to supplement, modify, or delete items covered in the Standard Specifications. Supplementary Conditions shall prevail over General Conditions.
39. **Specifications:** A part of the Contract documents containing the written directions, provisions, and requirements for completing the Contract Work. Standards for specifying materials or testing which are cited in the Contract Specifications by reference shall have the same force and effect as if included in the Contract physically.
40. **State:** The State of Alabama.
41. **Station:** A specific point on the centerline of the sewer or on the survey baseline designating some specific distance from the point of origin. Stations are numbered in terms of one hundred linear feet measured horizontally.
42. **Storm Sewer:** A sewer which carries surface runoff and sub-surface waters.
43. **Structures:** Facilities such as bridges, culverts, catch basins, inlets, retaining walls, cribbing, storm and sanitary sewer lines, water lines, under drains, electrical ducts, manholes, handholes, lighting fixtures and poles, transformers, flexible and rigid pavements, buildings, vaults, and other manmade features that may be encountered in the Work and not otherwise classified herein.
44. **Subcontractor:** An individual, firm, partnership, or corporation, approved by the Owner, having a direct contract with the Contractor for the performance of specified portions of the Contract.
45. **Substantial Completion:** That date as certified by the Engineer when the construction of the project or a specified part thereof is sufficiently completed, in accordance with the Contract documents, so that the project or specified part can be utilized for the purposes for which it is intended.
46. **Superintendent:** The Contractor's representative who is present on the Work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.
47. **Supplier:** Any individual, firm, partnership, or corporation who sells, rents, or supplies materials or equipment for the proper execution of the Work, including that fabricated to a special design, but who does not perform labor at the site. Establishment of a temporary plant or facility of any kind on or near a project for the purpose of furnishing material for that project only will not be considered a "supplier," but will be considered a "subcontractor" as defined in these Specifications unless such plant is established and operated by the prime Contractor.
48. **Surety:** The individual, firm, partnership, or corporation, other than the Contractor, executing Bid, Payment, or Performance Bonds which are furnished to the Owner by the Bidder.
49. **Work:** The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the Contract, Plans, and Specifications.
50. **Written Notice:** Any notice to any party of the Contract relative to any part of the Contract in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the Work.

**SECTION 00 72 00 – GENERAL CONDITIONS**

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**ARTICLE 1 – PRELIMINARY MATTERS**

A. Delivery of Bonds: When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish in accordance with the INSTRUCTIONS TO BIDDERS and Article 6.

B. Commencement of Contract Time; Notice to Proceed: The Contract Time 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 in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement.

C. Starting the Project: CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run and the Contractor's insurance for the project is in full effect.

D. Before Starting Construction: Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation clarification from ENGINEER before proceeding with any Work affected thereby.

E. Within fourteen (14) days after the Effective Date of the Agreement: CONTRACTOR shall submit to ENGINEER for review: an estimated progress schedule indicating the starting and completion dates of the various stages of the Work; a preliminary schedule of Shop Drawing submissions; and a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price. Schedule of Values will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

F. Before any Work at the site is started, CONTRACTOR shall deliver to the OWNER and ENGINEER, insurance certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with Article 7.

G. Preconstruction Conference: Within twenty one (21) days after the Effective Date of the Agreement, but before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to discuss the schedules referred to in paragraph E., to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the work.

H. Finalizing Schedules: At least fourteen (14) days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph F. The finalized progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the work nor relieve CONTRACTOR from full responsibility therefor. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement

for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

## ARTICLE 2 – PLANS AND SPECIFICATIONS

### 2.1 INTENT

A. The Plans, Specifications, Bidder's Documents, Contract Documents, Bidder requirements, and all other agreements are interrelated and their intent is to prescribe a complete improvement. The Contractor shall perform all items of work in the Proposal Forms, Plans, and reduced work or extra work as ordered. The Contractor shall furnish, unless provided otherwise, all material, machinery, equipment, supplies, transportation and labor for the completion of the project. The Contractor shall, for the price bid, perform all work shown on the Plans, required by the Specifications, or as reasonably inferred, requested, or as required for a complete and workable project. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. Not all details are shown, particularly for architectural, equipment, and building details. Where details are not shown, the Contractor shall submit proposed details to Engineer for review, and shall perform the work in accordance with details accepted by the Engineer.

B. The Plans accompanying these Specifications form a part of the Contract and include the drawings showing the location and details of the work insofar as practicable. No change or alteration shall be made in the plans without the written permission of the Engineer. The figure dimensions on the Plans may be assumed or based upon previous construction information. The Contractor shall check carefully all dimensions before proceeding with the construction. Should any errors be discovered, the Engineer's attention shall be immediately directed to same.

C. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specifications, manual, code or Laws or Regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual, or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER , or any of ENGINEER'S consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions set forth herein. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 2.3.

D. Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall 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;

and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

## 2.2 COORDINATION OF PLANS AND SPECIFICATIONS

A. These Bid Documents, General Conditions, Supplementary Conditions, Technical Specifications, Plans, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and provide for a complete work. In case of discrepancy, figured dimensions, unless obviously incorrect, shall govern over scaled dimensions. Supplementary Conditions shall govern over the General Conditions. Plans shall govern over Specifications. Special Provisions shall govern over General Conditions, Supplementary Conditions, Specifications, and Plans. The latest revision or its replacement of a professional association's specification or regulatory requirement shall govern.

B. It is the intent of the Drawings and Specifications that the Contractor shall furnish all labor, tools, materials, equipment, transportation, and services necessary for the proper execution of the work so shown and/or described, unless specifically noted otherwise. The Contractor shall execute all work so described in full conformance with the Plans, Specifications, and all Contract Documents; shall perform all incidental work necessary to complete the project in an acceptable manner; and shall fully and satisfactorily complete all work, facilities, and improvements, ready for use, occupancy, and operation by the Owner in a timely manner. To avoid delaying the schedule, the Contractor shall always spot check by exposing, measuring, etc. the existing facilities early in the project to coordinate the changes as shown or implied by the Contract Documents to existing facilities i.e., piping, equipment, etc.

C. The Contractor shall not take advantage of errors or omissions in the Plans or discrepancies between the Plans and Specifications. It shall be his responsibility to notify the Engineer of any errors or discrepancies found and ask for a clarification. The Engineer will make the corrections or clarifications. After discovery of such inconsistencies or ambiguities by the Contractor, any work done by the Contractor on any part of the project affected by such inconsistencies or ambiguities before receipt of written corrections from the Engineer shall be at the Contractor's risk.

D. Whenever in the Contract Documents use the (or similar) terms "as ordered", "as directed", "as required", "as allowed", "as approved" or the adjectives "reasonable", "suitable", acceptable", "proper", or "satisfactory" to describe a requirements, direction, review, or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review, or judgment will be solely to evaluate the Work for compliance with the Contract Documents. The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work.

## 2.3 ALTERATIONS AND CHANGE ORDERS

A. The Engineer may without notice to the Surety and without change in the unit bid prices, make alterations in the Plans or the work and its quantities to complete the proposed construction. Alterations shall not be considered as a waiver of any of the conditions of the Contract or Bonds.

B. Except for the purpose of affording protection against any emergency endangering life or

property, the Contractor shall make no change in the materials used or in the specified manner of constructing and/or installing the improvements, or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the Engineer and Owner authorizing the Contractor to proceed with the change. No claim for an adjustment of the Contract price will be valid unless so ordered.

C. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

1. A formal Written Amendment,
2. A Change Order, or
3. A Work Directive Change.

Contract Price and Contract Time may be changed by a Change Order or a Written Amendment. In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

1. A Field Order,
2. ENGINEER's approval of a Shop Drawing or sample, or
3. ENGINEER's written interpretation or clarification.

D. The Engineer may order additional or reduced levels of work or materials. If not listed as a pay item or if not included in the Contract Unit Prices, it will be Extra Work, modified work, or deductive work and the total Contract Price unchanged, increased, or decreased. The Engineer will ask the Contractor for a proposed cost to complete the Work. If the Owner approves the proposed cost, it shall become a part of the Contract. If the Owner considers the price excessive on extra work, the Owner may have the Contractor perform the work on force account. The Contractor shall not, except in an emergency, perform work that he may deem "extra work" without first giving prior written notice to the Engineer. In all circumstances, the Contractor shall take appropriate measures to mitigate extra cost and time. Whenever changes are made, whether they eliminate or deduct work or create extra work or when differing conditions are encountered, credits or payments for a Change Order will be made by use of any one of the following methods:

1. Unit prices or combinations of unit prices which formed the basis of the original Contract.
2. A lump sum mutually accepted based upon the Contractor's estimate which is properly itemized and supported by sufficient substantiating data to permit evaluation by the Engineer and Owner.
3. If the proposal from methods 1 and 2 above are not acceptable and prompt agreement between the two (2) parties cannot be reached, the Owner may order the Contractor to proceed with the work on a Force Account basis, under which the net cost shall be the sum of the actual costs that follow:
   (i) Estimated cost for labor
   (ii) Materials entering permanently into the work
   (iii) The ownership or reasonable rental cost of construction plant and equipment during the time of use on the extra work
   (iv) Power and consumable supplies for the operation of power equipment
   (v) Labor insurance
   (vi) Benefits, social Security, old age, and unemployment contributions.

To the net cost shall be added a fixed fee agreed upon, but not to exceed fifteen (15) percent of the net cost, to cover supervision, overhead, bond, and any other general expense, and profit. The Contractor shall submit to the Owner itemized cost sheets showing actual cost of performance of the work. When the work is performed under this method, the Contractor shall take appropriate measures to mitigate the costs incurred.

4. Each Change Order shall include in its final form:
   (i) A detailed description of the change in the work.
   (ii) The Contractor's Proposal (if any) or a conformed copy thereof.
   (iii) A definite statement as to the resulting change in the Contract price and/or time.
   (iv) The statement that all work involved in the change shall be performed in accordance with Contract requirements except as modified by the Change Order.

E. If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER.

## ARTICLE 3 – CONTROL OF THE WORK

### 3.1 ENGINEER

A. Project communication is generally through the Engineer and the work shall be accomplished under the periodic review of the Engineer. The Engineer shall decide questions which arise concerning materials furnished, work performed, and the extension of time. The Engineer shall interpret the Plans and Specifications during the fulfillment of the Contract. The Engineer is not authorized to increase the obligation of the Owner to the Contractor, except in accordance with the terms of the Contract.

B. The Engineer will review the Work at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the work is being performed in a manner indicating that the Work, when completed, will be in accordance with the intent and function of the Contract Documents. However, the Engineer will not be required to make exhaustive or continuous on-site inspections to check quality or quantity of the Work. On the basis of on-site observations as an engineer, the Engineer will keep the Owner informed of progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work.

C. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative (RPR) to assist ENGINEER in observing the performance of the Work. RPR's may be appointed by the Engineer or Owner, but shall have no authority to permit any deviation from the Plans and Specifications except on written order from the Engineer. The Contractor will be liable for any deviation except on such written order. RPR's shall have authority, subject to the final decision of the Engineer, to condemn and reject any defective work and to suspend the work when it is not being performed properly.

D. The RPR shall in no case act as superintendent or foreman or perform other duties for the Contractor, nor interfere with the management of the work by the latter. Any advice which the RPR may give the Contractor shall in no way be construed as binding to the Engineer in any way or releasing the Contractor from fulfilling all of the terms of the Contract. If OWNER designates another agent to represent OWNER at the site who is not ENGINEER's agent or employee, the duties, responsibilities, and limitations of authority of such other person shall be provided to the CONTRACTOR by the OWNER.

E. The Engineer will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility. The Engineer will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents and all applicable Federal or State Regulations. The Engineer will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

F. The Engineer will have authority to reject Work which does not conform to the Contract Documents. However, neither this authority of the Engineer nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Engineer to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.

G. The Engineer shall review and approve or take other appropriate action on the Contractor submittals, such as shop drawings, product data, samples, and other data, which the Contractor is required to submit, but only for the limited purpose of checking for conformance with the design concept and the information shown in the Construction Documents. This review shall not include review of the accuracy or completeness of details, such as quantities, dimensions, weights or gauges, fabrication processes, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the sole responsibility of the Contractor. The Engineer's review shall be conducted with reasonable promptness while allowing sufficient time in the Engineer's judgment to permit adequate review. Review of a specific item shall not indicate that the Engineer has reviewed the entire assembly of which the item is a component. The Engineer shall not be responsible for any deviations from the Construction Documents and in all cases the Contractor shall remain responsible for the deviations. The Engineer shall not be required to review partial submissions, submittals containing significant inaccuracies, submittals not properly and thoroughly coordinated by the Contractor, or those for which submissions of correlated items have not been received.

H. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

I. 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 Time and are consistent with the overall intent of 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 CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a written claim therefore as provided in Section 2.3.

## 3.2 CONTRACTOR

A. The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner. The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and

conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies, or omissions discovered shall be reported to the Engineer at once.

B. The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under the Contract, unless Contract Documents give other specific instructions concerning these matters.

C. The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor. The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Engineer in the Engineer's administration of the Contract, or by tests, inspections, or approvals required or performed by persons other than the Contractor. The Contractor shall be responsible for inspection of portions of Work already performed under this Contract to determine that such portions are in proper condition to received subsequent Work. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

D. Except where the Contractor is an individual and gives his personal superintendence to the work, the Contractor shall provide a competent superintendent, satisfactory to the Owner and the Engineer, on the work at all times during working hours with full authority to supervise and direct the work and who shall be the Contractor's agent responsible for the faithful discharge of the Contractor's obligations under the Contract during working hours. All communications given to the superintendent shall be as binding as if given to CONTRACTOR. Superintendent shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The Contractor's superintendent shall be equipped with a mobile phone or other communication device suitable to the Engineer for contact by the Engineer or Owner.

E. The Owner shall have the authority to require the Contractor to remove from the work any incompetent or insubordinate superintendent.

F. The Contractor shall employ only competent skillful workers and shall at all times enforce strict discipline and good order among the employees. The Contractor shall neither permit nor suffer the introduction or use of alcoholic beverages or controlled substances upon or about the work embraced in this Contract. The Owner may require the Contractor to dismiss from the work such employee or employees as the Owner or the Engineer may deem incompetent, or careless, or insubordinate.

G. The Contractor shall be solely responsible for the safety of his employees and job site personnel during the progress of the work as well as the safety, efficiency, and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation.

H. The Contractor is responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by the subcontractors and is aware that

nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the Owner.

I. The Owner may award, or may have awarded other Contracts for additional work, and the Contractor shall cooperate fully with such other Contractors, by scheduling his own work with that to be performed under other Contracts as may be directed by the Owner. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other Contractor as scheduled.

J. The Contractor shall be responsible for the proper fitting of all work and for the coordination of the operations of all trades, Subcontractors, or material men engaged upon this Contract. He shall be prepared to guarantee to each of his Subcontractors the locations and measurements which they may require for the fitting of their work to all surrounding work.

**3.3 OWNER**

A. OWNER shall issue all communications to CONTRACTOR through ENGINEER.

B. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to approval by the OWNER.

C. OWNER shall furnish the data required by OWNER under the Contract Documents promptly and shall make payment to CONTRACTOR promptly after they are due.

D. OWNER executes all Change Orders.

**ARTICLE 4 – CONTRACTOR'S SUBCONTACTORS, SUPPLIERS, AND OTHERS**

A. Unless otherwise stipulated, the Contractor shall perform with his own organization and equipment not less than fifty (50%) percent of the value of all Work in the Contract not including material cost. A Subcontractor shall be recognized only as an employee or agent of the Contractor and his removal may be required by the Owner.

B. CONTRACTOR shall not employ any Subcontractor, Supplier, or other person or organization whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

C. The Contract Documents may require the identity of certain Subcontractors, Suppliers, or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be listed and/or submitted to the OWNER in advance. OWNER's or ENGINEER's acceptance (either in writing or by failing to make written objection) of these entities in the bidding or Contract Documents may still be revoked on the basis of reasonable objection after due investigation. If requested by the Owner, the CONTRACTOR shall submit an acceptable substitute and the Contract Price shall not change unless approved in advance of the change by the Owner and Engineer. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier of other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

D. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier, or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other person or organization except as may otherwise be required by Laws and Regulations.

E. 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.

F. All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents.

## ARTICLE 5 – AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

### 5.1 AVAILABILITY OF LAND

A. Availability of Lands: OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights of way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER's furnishing these lands, rights of ways or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefore as provided in Article 14. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

### 5.2 PHYSICAL CONDITIONS

A. Explorations and Reports: Reports of explorations and tests of subsurface conditions at the site may have been utilized by ENGINEER in preparation of the Contract Documents. When provided, the CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon nontechnical data, interpretations or opinions contained therein or for the completeness thereof for CONTRACTOR's purposes. CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.

B. Existing Structures: Numerous sources of information (surveys, record drawings, construction drawings, on-site observations, discussions with the Owner’s staff, etc.) may have been used by the Engineer in preparation of the Contract Documents. CONTRACTOR may rely upon the information contained in such drawings, but not for the completeness thereof for CONTRACTOR's purposes.

C. Report of Differing Conditions: If CONTRACTOR believes that:

1. Technical data on which CONTRACTOR is entitled to rely as provided is inaccurate, or

2. Any physical condition uncovered or revealed at the site differs materially from that indicated, reflected, or referred to in the Contract Documents.

CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency), notify OWNER and ENGINEER in writing about the accuracy or difference.

D. ENGINEER's Review: ENGINEER will review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) or ENGINEER's findings and conclusions.

E. Possible Document Change: If ENGINEER concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change in the Contract Documents is required, a Work Directive Change or a Change Order will be issued to reflect and document the consequences of the inaccuracy or difference.

F. Possible Price and Time Adjustments: In each such case, an increase or decrease in the Contract Price or an extension of shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference. If OWNER and CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made therefore.

G. Underground Facilities: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site may be assumed or based upon information/data furnished to OWNER or ENGINEER by the owners of such underground facilities or by others. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and the CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents, for coordination of the Work with the owners of such Underground Facilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

H. Underground Facilities Not Shown or Indicated: If any Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency), identify the owner of such Underground Facility and give written notice thereof to the OWNER and ENGINEER. ENGINEER will review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of Contract Time, or both, to the extent that they are attributable to the existence any Underground Facility that was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of.

## 5.3 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 (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point 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 by professionally qualified personnel.

## ARTICLE 6 – PERFORMANCE AND PAYMENT BONDS

A. CONTRACTOR shall furnish performance and payments Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Law or Regulation or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by Law or Regulation or by the Contract Documents and be executed by such sureties as are named in the current 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 Audit Staff Bureau of Accounts, U.S. Treasury. All Bonds signed by an agent must be accompanied by a certified copy of the authority act.

B. 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 Project is located or it ceases to meet these requirements, CONTRACTOR shall within five days thereafter substitute another Bond and Surety, both of which must be acceptable to OWNER.

## ARTICLE 7 – INSURANCE AND INDEMNIFICATION

## 7.1 CONTRACTOR'S INSURANCE

A. CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents. Types of claims for which the Contractor's protection shall be provided include, but shall be limited to, the following:

1. Claims under worker's or workmen's 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 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;
6. Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and
7. 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.

The insurance shall include the specific coverages and be written for not less than the limits of liability and coverages required below, or as required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least sixty days' prior written notice has been given to OWNER and ENGINEER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work. In addition, CONTRACTOR shall maintain such completed operations insurance for a least one year after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

B. Before any work is commenced, the Contractor shall furnish an approved certificate of insurance addressed to the Owner, showing that he carries the following insurance which shall be maintained throughout the term of the Contract.

| | | |
|---|---|---|
| 1. | Workmen’s Compensation | Statutory Limit |
| 2. | Employer's Liability for Hazardous Work | If Needed |
| 3. | Public Liability (Bodily Injury) and Property Damage | $1,000,000/occurrence<br>$2,000,000/aggregate |
| 4. | Automobile Liability | $1,000,000 |
| 5. | U.S. Long Shoremen’s and Harbor Worker’s Insurance | Statutory Limit by Law |
| 6. | Builder's Risk | Insurable Portion |

C. The Contractor shall carry or require that there be carried the insurance listed above for the protection of all his employees and those of his Subcontractors engaged in work under this Contract, and for the protection of the public.

D. If the work includes pipelines or other underground structures, the Property Damage Liability shall include explosion, collapse, and underground coverage.

E. The premiums for all insurance and the bond required herein shall be paid by the Contractor.

F. It shall be the obligation of the Contractor to complete and deliver to the Owner the structure required by these Contract Documents regardless of any loss, damage to, or destruction of the structure prior to delivery.

## 7.2 OWNER'S AND ENGINEER'S (3rd PARTY) PROTECTIVE LIABILITY INSURANCE

A. The Contractor shall purchase and maintain such insurance as will protect him from claims set forth below which may arise from the Contractor's execution of the work, whether execution be by the Contractor, any Subcontractor, any one directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. The Contractor and/or any subcontractors waive subrogation as to the Owner, its officers, agents, employees, consultants, and Engineer (Engineers of the South, LLC). This shall be stated as such in all policies and on all certificates. The full aggregate limits apply per job or contract. This shall be stated as such in all policies and on all certificates. Insurance for Contractor or any of its agents, employees, or subcontractors shall cover both on-site and off-site operations under this Contract and insurance coverage shall extend to any motor vehicles or other related equipment, irrespective of whether the same is owned, non-owned, or hired. Coverage shall be as required in Article 7.1.

B. The Contractor's insurance shall remain in effect for the duration of the project. Maintenance of proper insurance coverage is a material element of the Contract. Failure to maintain, renew and/or provide evidence of renewal may be treated by the Owner as a material breach of Contract. The lack of insurance does not negate the Contractor's obligations under this Contract including, but not limited to, indemnification of the Owner and Engineer from any damages resulting from the Contractor's failure to obtain, maintain, or renew the minimum insurance policies and endorsements required herein.

C. Original Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to the Owner's execution of the Contract. These Certificates shall contain the following:

1. Provision that coverage afforded under the policies will not be canceled unless at least sixty (60) days prior Written Notice has been given to the Owner.
2. The Contractor's and any subcontractor's general liability, umbrella excess liability, and automobile liability insurance shall endorse the Owner, its officers, agents, employees, and Engineers of the South, LLC as additional insureds for any claims arising out of work performed under this Contract.
3. There shall be a statement that the Contractor and any subcontractor waive subrogation as to the Owner, its officers, agents, employees, and Engineers of the South, LLC.
4. There shall be a statement that full aggregate limits apply per job or contract.
5. Indication for coverage of x, c, and u as described below.

D. Copies of the Contractor's automatic policy endorsements or original policy endorsements acceptable to the Owner shall be filed with the Owner prior to the Owner's execution of the Contract. Policy endorsements for additional insureds and waivers of subrogation shall be for both on-going and completed operations and shall be as provided for in the following:

1. Additional Insured Endorsements - ISO's CG 20 10 11/85.
2. Waivers of Subrogation Endorsement - ISO's CG 24 04 10 93.

E. The Owner, his agents, and the Engineers shall be named as additional insureds in all insurance policies carried by the Contractor or that of his subcontractors for this Contract. The above mentioned insurance shall be primary without contribution from any insurance or deductibles available to the additional insureds. The requirement for providing these endorsement forms shall in no way obligate the Contractor to provide, supplement, or replace the Engineer's own professional liability insurance. Use of alternative endorsement forms shall not limit the provisions for 1 and 2 above.

F. Neither the setting of insurance limits or requirements nor the acceptance or approval of the same by the Owner imply or represent that the limits or the insurance carrier is sufficient or that such insurance actually has been obtained, that being the responsibility of the Contractor. These insurance requirements shall be considered as a minimum. The Contractor shall consult with his insurance agent to determine whatever greater levels of insurance may be desired. The provision of insurance shall in no way limit the Contractor's responsibility under the Contract nor limit his responsibility to indemnify and hold harmless the Owner and Engineer.

## 7.3 CONTRACTOR'S AND SUBCONTRACTOR'S INDEMNIFICATION PROVISION

A. The CONTRACTOR and/or SUBCONTRACTOR shall indemnify and hold harmless the OWNER, ENGINEER, ENGINEER'S Consultants, and the officers, directors, employees, agents, and other consultants 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) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage (i) 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, and (ii) is caused in whole or in part by a negligent act or omission of the Contractor, any Subcontractor or Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, or employees by any employee (or the survivor or personal representative or such employee) of CONTRACTOR, any Subcontractor or Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish an of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph (1) 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 person or organization under workers' compensation acts, disability benefits acts, or other employee benefit acts.

C. The Contractor's insurance shall remain in effect for the duration of the project. Maintenance of proper insurance coverage is a material element of the Contract. Failure to maintain, renew and/or provide evidence of renewal may be treated by the Owner as a material breach of Contract. The lack of insurance does not negate the Contractor's obligations under this Contract including, but not limited to, indemnification of the Owner and Engineer from any damages resulting from the Contractor's failure to obtain, maintain, or renew the minimum insurance policies and endorsements required herein.

D. If, through acts of neglect or through failure to comply with any applicable Government regulations by the Contractor, any other Contractor or any Subcontractor shall suffer loss or damage on the work, the Contractor shall settle with such other Contractor or Subcontractor by agreement or arbitration, if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against the Owner on account of any damage alleged to have been so sustained, the Owner will notify this Contractor, who shall defend at his own expense any suit based upon such claim, and, if any judgment or claims against the Owner shall be allowed, the Contractor shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith.

E. There shall be no liability upon the Owner or Engineers, or their authorized representatives, either personally or as officials of the Owner or engineering company.

## ARTICLE 8 – SAFETY, PROTECTION, AND EMERGENCIES

### 8.1 SAFETY AND PROTECTION

A. The Contractor at his own expense, shall maintain project and public safety. The Contractor agrees to hold the Owner and Engineers harmless and indemnify them from all claims for damages resulting from construction of the project by the Contractor or Subcontractors, his agents or employees. The Owner and/or Engineers are not responsible for providing the Contractor a safe place to work nor for the safety of any equipment, procedure, or material used on construction or incorporated into the work. The Contractor shall be solely responsible for the means and methods of construction and for safety.

B. CONTRACTOR shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Contractor, in the prosecution of his work under the Contract, is bound by the requirements of "Safety and Health Regulations for Construction" of the Occupational Safety and Health Administration, U.S. Government Department of Labor, and of other authorities having jurisdiction in safety matters.

C. The Contractor is solely and completely responsible for conditions of the job site, including safety of all persons and property affected directly or indirectly by his operations during the performance of the work; and this requirement is not limited in application to normal working hours, but applies continuously twenty-four (24) hours per day until acceptance of the work by the Owner, and thereafter when working during the warranty phases of the project.

D. CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them 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 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.

E. CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

F. Under the terms and conditions of this Contract, the Engineers shall not act as Safety Engineer or Safety Supervisor, since such responsibility remains solely with the Contractor. The Engineer shall not be responsible for establishing safety practices or for prescribing safety measures for the contractor. The duty of the Engineer to review the work in order to determine its acceptability in accordance with the Specifications and to conduct construction review of the Contractor's performance for the benefit of the Owner, shall not be construed as a duty to review the adequacy of the Contractor's safety measures on or near the construction site and/or to direct the actions of the Contractor's employees in the performance of the work as such duties are not included among the responsibilities of the Engineer.

G. When the use of explosives is necessary, the Contractor shall use care to prevent damages to life or property. The Contractor and his Surety shall indemnify and save harmless the Owner and the Engineer from all claims for damages arising out of the use of explosives or any other dangerous material. If no local laws or ordinances apply, storage of explosives shall be not

closer than 1,000 feet from the road, street, any building or area of public use. Fuel tanks, systems, and appurtenances shall be stored and utilized in a way to comply with OHSA and regulatory agencies

## 8.2 EMERGENCIES

A. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, 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. If ENGINEER determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a work Directive Change or Change Order will be issued to document the consequences of the changes or variations.

## 8.3 PUBLIC CONVENIENCE AND SAFETY

A. The Contractor is required to conduct his work as to ensure the least possible obstruction to traffic, to ensure the least possible inconvenience to the general public and the residents in the vicinity of the work, and to ensure the protection of persons and property. No disturbing noise will be allowed particularly in residential areas between the hours of 9:00 p.m. until 7:30 a.m. unless an emergency occurs. Permission of the proper authority is required before any road or street is closed to the public. The maintenance of accessibility of fire-fighting equipment to fire hydrants and to such areas as are necessary for the provision of fire protection is a requirement of the Fire Department or the authority having jurisdiction. The provision of temporary measures as required to ensure the safe use of sidewalks and streets by the public is the responsibility of the Contractor. The proper functioning of all gutters, sewer inlets, drainage ditches, and irrigation ditches is to be ensured by constant clean-up along with the work and by provision of temporary facilities where required for the maintenance of natural surface drainage. The implementation of all such maintenance measures and safety precautions is the responsibility of the Contractor.

B. No road, sidewalk, or vehicle path shall be closed by the Contractor except by permission of the Engineer, and while closed the Contractor shall maintain traffic through or around the Work. The Contractor shall notify emergency agencies and the Engineer before the starting of construction of any situations that might inconvenience or endanger traffic. All right-of-ways shall be kept continuously open and maintained in passable and safe condition. The Contractor shall clean-up and place streets back in service as soon as possible.

C. The convenience of the general public and of residents along the road or other travel ways shall be provided for in a satisfactory manner. Where roads or streets are not available for use as detours, traffic shall be permitted to pass through the Work. The traveling public shall have precedence over Contractor's vehicles, and shall not be delayed for the convenience of the Contractor. The Contractor shall provide flagmen whose sole duties shall consist of controlling the movement of public traffic. No additional charges will be paid for traffic routing or control.

D. The Contractor shall provide and maintain temporary roads to provide access to the Work, driveways, houses, or buildings affected by the work. Temporary bridges for pedestrians shall be provided over surfacing, pavement, sidewalks, or muddy areas.

E. The provision by the Contractor of warning signs, warning lights, barricades, and watchmen is subject to the requirements of "Safety and Health Regulations for Construction" of the Occupational Safety and Health Administration, U. S. Government Department of Labor; the State "Manual on Uniform Traffic Control Devices for Streets and Highways"; and other authorities having jurisdiction in the areas and traffic control. The Contractor is solely responsible for satisfying the safety and traffic control requirements of authorities concerned with or affected by this work.

## 8.4 PROTECTION AND RESTORATION OF PROPERTY, STREETS, AND LANDSCAPE

A. The Contractor shall not enter upon private property without obtaining permission from the owners and lessees. The Contractor shall be responsible for the preservation of all public and private property. The Contractor will obtain necessary information of existing utilities, and shall give notice to the owners or authorities at least forty-eight (48) hours before his operations will affect such property. The Contractor shall not interfere with the operation of utilities. The Contractor shall at his own expense, take necessary precautions to avoid interruption of service or damage.

B. Work under this Contract shall include the restoration of all paved areas and macadamized roadways to their original condition at his own expense. If the Contractor fails to restore disturbed areas promptly, the Owner, after giving three (3) days' written notice, may have the pavement restored and deduct cost from the payment due the Contractor. However, any such action or lack of action, by the Owner shall not relieve the Contractor of any of his obligations under this Contract, including but not limited to safety. The Contractor must conform to the prevailing State Highway Code and Railroad Company requirements at his own expense. The Contractor shall maintain roads, streets, and highways affected by his work in a safe condition at all times.

C. When damage or injury is done to public or private property by the Contractor, he shall repair such damage or injury so that it is equal or better condition to the property before damage.

## ARTICLE 9 – 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. CONTRACTOR shall indemnify and hold harmless OWNER and ENGINEER anyone directly or indirectly employed by either of them from any against all claims, damages, losses, and expenses including attorney's fees and court and arbitration costs arising out of 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, and shall defend all such claims in connection with any alleged infringement of such rights.

**ARTICLE 10 – PERMITS**

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when 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, CONTRACTOR shall pay all charges of utility owners for connection to the work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

**ARTICLE 11 – LAWS AND REGULATIONS**

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, and any necessary changes will be authorized. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

C. The Contractor shall comply with all laws, regulations, and permits. The Contractor and his Surety shall indemnify and save harmless the Owner and the Engineer and all of their representatives or agents against any claim or liability arising from or based on the violation of any law, regulation, or permit requirement, whether by himself, his employees, or his subcontractors. The Contractor agrees to indemnify and/or reimburse the Owner for any fines, violations, charges, suits, or sums of money imposed by the Alabama Department of Environmental Management (ADEM), Environmental Protection Agency (EPA), or any agency overseeing and/or issuing regulation, law or permit for any violation arising out of the work by the Contractor pursuant to this agreement.

**ARTICLE 12 – 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.

**ARTICLE 13 – USE OF PREMISES**

A. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the project site, easements, rights of way, permitted areas, and/or other areas identified by the Contract Documents and shall not unreasonably encumber the premises 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 land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the work,

CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses, and expenses (including, but not limited to, fees of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of CONTRACTOR's performance of the Work.

B. During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish, and debris from and about the premises as well as all tools, appliances, construction equipment, and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

C. 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.

D. The Owner shall have the right to take possession of and use any completed or partially completed portion of the work, notwithstanding that the time for completing the entire work or such portions of the work may not have expired; but such taking possession and use shall not be deemed to be acceptance of any work not completed in accordance with the Plans, Specifications, and Contract Documents. If such prior use should increase the cost of or delay the completion of uncompleted work, or should cause refinishing of completed work subjected to such prior use, the Contractor shall be entitled to extra compensation or extension of time, or both, as agreed upon by the Owner.

**ARTICLE 14 – CHANGE OF CONTRACT TIME**

A. The Contract Time may only be changed by a Change Order or a Written Amendment. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making a claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph.

B. It is understood and agreed by and between the Owner and the Contractor that the time of completion herein set out is a reasonable time. The Contractor shall perform fully, entirely, and in an acceptable manner, the work contracted for within the contract time stated in the Contract. The contract time shall be counted from ten days after the effective date of the "Notice to Proceed", or the date work commences, whichever occurs first; and shall include all Sundays, holidays, and non work days. All calendar days elapsing between the effective dates of any orders of the Engineer for suspension of the prosecution of the work, due to the

fault of the Contractor, shall be counted as elapsed contract time, and shall not be considered for an extension of time.

C. Extensions of time for completion, under the conditions of stated below, will be granted.
   1. If the satisfactory execution and completion of the Contract shall require work or material in significantly greater amounts or quantities than those set forth in the Contract, then the Contract time shall be increased in the same proportion as the additional work bears to the original work contracted for.
   2. An average or usual number of inclement weather days, when work cannot proceed, is to be anticipated during the construction period and is not to be considered as warranting extension of time. If, however, it appears that the Contractor is delayed by conditions of weather, so unusual as not to be reasonably anticipated, extensions of time may be granted.
   3. Should the work under the Contract be delayed by other causes which could not have been prevented or contemplated by the Contractor, and which are beyond the Contractor's power to prevent or remedy, an extension of time may be granted. Such causes of delay shall include but not necessarily be limited to the following:
      a. Acts of God, acts of the public enemy, acts of the Owner except as provided in these Specifications, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.
      b. Any delays of Subcontractors or suppliers occasioned by any of the causes specified above.

D. The Resident Project Representative or other authorized representative of the Owner shall keep a written record sufficient for determination as to the inclusion of that day in the computation of Contract time. This record shall be available for examination by the Contractor during normal hours of work as soon as feasible after the first of each construction month. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

E. If the Contractor finds it impossible for reasons beyond his control to complete the work within the Contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may recommend to the Owner that the contract time be extended as conditions justify. If the Owner extends the contract, the extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

F. The amount of all extensions of time for whatever reason granted shall be determined by the Owner. In general, only actual and not hypothetical days of delay will be considered. The Owner shall have authority to grant additional extensions of time as the Owner may deem justifiable.

G. All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 14 shall not exclude recovery for damage (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) for delay by either party.

## ARTICLE 15 – WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

### 15.1 WARRANTY AND GUARANTEE

A. CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the Contract Documents and will not be defective. Notice of all defects shall be given to CONTRACTOR. Neither the final certificate of payment, nor any provision of the Contract Documents, not partial or entire occupancy and/or use of the work by the Owner, shall constitute an acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

B. The Contractor warrants to the Owner and the Engineer that all materials, work, and equipment furnished under this Contract will be new unless otherwise specified and that all work, materials, and equipment will be of good quality, free from fault and defects in conformance with the Contract Documents. All work, materials, and equipment not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The warranty shall be for one year from the date of the Final Acceptance or the date of Substantial Completion of the full Project completed in its entirety, whichever is first. If within one (1) year from the beginning date of the warranty period, any of the work, materials, or equipment is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so and pay for damages to other work, facilities, persons, or property resulting from such defects. This obligation shall survive termination of the Contract.

C. The Performance Bond shall remain in full force and effect during the guaranty period, and the Surety shall be liable for the correction of any faults and/or defects that may have appeared within the guaranty period and have not been corrected by the Contractor.

D. If the Project involves a roof on a building or other structure, then the Contractor shall execute and provide the Roofing Guarantee. The guarantee shall be delivered to the Owner and Engineer prior to final payment.

E. If the Project involves termite treatment, the Contractor shall furnish to the Owner a written warranty certifying that the applied soil poisoning treatment will prevent the infestation of subterranean termites and that if subterranean termite activity is discovered during the warranty period, Contractor shall re-treat the soil and repair or replace any damage caused by termite infestation. The warranty shall be for a period of five (5) years from the date of treatment signed by Applicator and Contractor.

### 15.2 TESTS AND INSPECTIONS

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals.

B. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approve, CONTRACTOR shall assume full responsibility therefor, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval. CONTRACTOR shall also be

responsible for and pay all costs in connection with any inspection or testing required in connection with OWNER's or ENGINEER's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all inspections, tests, and approvals in addition to the above which are required by the Contract Documents shall be paid by OWNER (unless otherwise specified).

C. All inspections, tests, or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by ENGINEER if so specified).

D. If any Work (including the work of others) that is to be inspected, tested, or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering 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.

E. Neither observations by ENGINEER nor inspections, tests, or approvals by others shall relieve CONTRACTOR from CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

F. 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.

G. 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. If it is found that such Work is defective, CONTRACTOR shall bear all direct, indirect, and consequential costs of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction.

## 15.3 CORRECTION OR REMOVAL OF DEFECTIVE WORK

A. If required by the OWNER or ENGINEER, CONTRACTOR shall promptly, either correct all defective Work (whether or not fabricated, installed, or completed) or, if the Work has been rejected by ENGINEER, remove it from the site and replace with non-defective Work. CONTRACTOR shall bear all direct, indirect, and consequential costs of such correction or removal made necessary thereby. This obligation shall survive the termination of the Contract.

B. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions, correct such defective Work. If CONTRACTOR does not promptly comply with terms of such instructions, or in an emergency where delay would cause serious

risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect, and consequential costs of such removal and replacement will be paid by CONTRACTOR. 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 or by Written Amendment.

C. Unremedied defects identified for correction during the warranty period described herein before, but remaining after its expiration, shall be considered as part of the obligations of the warranty. Defects in material, workmanship, or equipment which are remedied as a result of obligations of the warranty shall subject the remedied portion of the Project to an extended warranty period of 1 year after the defect has been remedied. Repetitive malfunction of equipment shall be cause for equipment replacement and an extension of the guarantee period for the equipment to a date 1 year following acceptable replacement. The Contractor further assumes responsibility for a similar guarantee for all work and materials provided by subcontractors or manufacturers of packaged equipment components.

## 15.4 ACCEPTANCE AND OWNER'S CORRECTION 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, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect, and consequential 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 to include but not be limited to fees and charges of engineers, architects, attorneys, and other professionals). 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. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

B. If CONTRACTOR fails within a reasonable time after written notice of ENGINEER to correct defective work or remove and replace rejected work, or if the CONTRACTOR fails to perform the Work in accordance with the Contract Documents, the OWNER may after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. CONTRACTOR shall allow OWNER, OWNER's representative, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect, and consequential costs of OWNER, in exercising such rights and remedies will be charged against CONTRACTOR and OWNER shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect, and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

# ARTICLE 16 – PAYMENTS TO CONTRACTOR

## 16.1 SCHEDULE OF VALUES AND PROGRESS PAYMENTS

A. The schedule of values established 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.

B. At time decided by the Owner and Engineer and satisfactory to the CONTRACTOR, CONTRACTOR shall submit to ENGINEER for review 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 adequately insured location agreed upon 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, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER's interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. ENGINEER will, within ten 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. Ten days after presentation of the Application for Payment with ENGINEER's recommendations, the amount recommended will (subject to the provisions of the last sentence of paragraph F) become due and will be paid by OWNER to CONTRACTOR.

D. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, that based on ENGINEER's observations of the Work in progress as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules that the Work has progressed to the point indicated; that, to the best of ENGINEER's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work, and to any other qualifications stated in the recommendations); and that CONTRACTOR is entitled to payment of the amount recommended. However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that exhaustive or continuous on-site inspections of all work have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents.

E. ENGINEER's recommendation of final payment will constitute an additional representation by ENGINEER to OWNER that the conditions precedent to CONTRACTOR's being entitled to progress payments as set forth in paragraph D have been fulfilled.

F. ENGINEER may refuse to recommend the whole or any part of any payment if, in the ENGINEER's opinion, it would be incorrect to make such representations to the OWNER. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such

payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

1. The Work is defective, or completed Work has been damaged requiring correction or replacement.
2. The OWNER has been required to correct defective Work

G. OWNER may refuse to make payment of the full amount recommended by ENGINEER because claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work or Liens have been (or may be) filed in connection with the Work or there are other items entitling OWNER to set off against the amount recommended, but OWNER must give CONTRACTOR immediate written notice (with copy to ENGINEER) stating the reasons for such action.

H. The amount of the payment due to the Contractor shall be based upon the total value of work completed to date plus the value of materials suitably stored onsite (or offsite if insured and approved in advance) less previous payment and five percent (5%) for retainage. After the project is fifty percent (50%) complete, no additional retainage shall be withheld provided that the Contractor is making satisfactory progress and there is no specific cause for greater withholdings

**16.2 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 free and clear to all Liens.

**ARTICLE 17 – SUBSTANTIAL COMPLETION**

A. "Substantial completion" shall be that degree of completion of the entire Project, unless otherwise provided for, as evidenced by the Engineer's written notice of substantial completion, sufficient to provide the Owner, at its discretion, the full-time use of the work or defined portion of the work for the purposes for which it was intended. "Substantial completion" of a Project shall be that degree of completion that has provided a minimum of 7 continuous days of successful, trouble-free operation of the entire project facilities in a "fully automatic" manner acceptable to the Owner and Engineer and with all redundant systems fully operational. All equipment contained in the Project, plus all other components required in the Plans and Contract Documents to enable the Owner to operate the project facilities in the manner that was intended, shall be complete on the substantial completion date. The Project herein described is a complete Project in its entirety and shall include clean-up and other aesthetically pleasing requirements of the project. Completion of individual components of the Project cannot be considered for substantial completion until the sum total of these components are complete and thus, the components when operating properly will provide the Owner with a complete Project.

B. 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. Within a reasonable time thereafter, 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. If the ENGINEER and OWNER consider the Work substantially complete, the ENGINEER will prepare and deliver to the OWNER and CONTRACTOR a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion.

C. Issuance of a written certificate of Substantial Completion shall serve the purpose of establishing the starting date for specific equipment guarantees or warranties, and to establish the date the Owner will assume the responsibility for the cost of operating such equipment.

D. Certificate of Substantial Completion shall not be considered as final acceptance of any portion of the Project or relieve the Contractor from completing the remaining work, including any remaining performance or acceptance testing, within the specified time and in full compliance with the Contract Documents. Specifically, the issuance of a written notice of Substantial Completion shall not relieve the Contractor of his obligation to promptly remedy any omissions and latent or unnoticed defects in the Project covered by the written notice of substantial completion.

E. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete, or correct items on the tentative list.

**ARTICLE 18 – PARTIAL UTILIZATION**

A. Use of OWNER of any finished 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 without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all of the Work subject to the following provisions of paragraphs B and C.

B. OWNER at any time may request CONTRACTOR to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER and ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. 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 giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions 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.

C. OWNER may at any time request CONTRACTOR to permit OWNER to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to ENGINEER and within a reasonable time thereafter OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected. If CONTRACTOR does not object in writing to OWNER and ENGINEER that such part of the Work is not ready for separate operation by OWNER may

begin. ENGINEER will finalize the list of items to be completed or corrected and will deliver such list to OWNER and CONTRACTOR. During such operation and prior to Substantial Completion of such part of the Work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

D. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the Contract requirements in respect of property insurance.

**ARTICLE 19 – FINAL INSPECTION**

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will 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 remedy such deficiencies.

B. Verification, approval, inspection, final inspection, issuance of final acceptance, issuance of final certificate of payment, action, or approval by the Owner upon the final certificate of payment or final acceptance shall not in any way relieve the Contractor of responsibility for faulty materials or workmanship.

**ARTICLE 20 – FINAL APPLICATION FOR PAYMENT AND ACCEPTANCE**

A. After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked up record documents and other documents as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable , CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. 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 documentation all 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 to OWNER for payment. Otherwise, ENGINEER will return the Application 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.

C. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER may, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, 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 by the Contract, 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 and OWNER with the Application for such payment. Payments made shall be under the terms and conditions governing final payment, except that they shall not constitute a waiver of claims.

D. 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 or from failure to comply with the Contract Documents or the terms of any special guarantees specified herein; however, it will not constitute a waiver by OWNER of any rights in respect to CONTRACTOR's continuing obligations under the Contract Documents.
2. A waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

E. No payment, however, final or otherwise, shall operate to release the Contractor or his Sureties from obligations under this Contract and the Performance Bond, Payment Bond, and other bonds, warranties and guarantees as herein provided. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ENGINEER, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents.

## ARTICLE 21 – SUSPENSION OF WORK AND TERMINATION

### 21.1 SUSPENSION

A. The Owner or his Agent shall have the authority to suspend the Work or parts for short periods of time due to unsuitable weather or conditions which he considers unfavorable for satisfactory prosecution of Work, or for failure of the Contractor to perform any provisions of the Contract. No additional compensation shall be paid the Contractor for these suspensions.

B. Upon any suspension, the Work shall be properly protected. The Contractor shall not suspend the Work without the approval of the Owner. The Engineer will be notified twenty-four (24) hours before work is to be resumed.

C. OWNER may, at any time and without cause, suspend the Work or any portion thereof for longer periods of time but not more than ninety days by notice in writing to CONTRACTOR. Upon suspension, OWNER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed to request an increase in Contract Price and/or an extension of the Contract Time, or both, if directly attributable to an optional suspension by the OWNER.

D. Should the Work be stopped by an injunction, court restraining order, process, or judgment directed to either of the parties hereto, then such delay shall not be charged against the Contract time. The Owner will not be liable to the Contractor for such delay or termination of the Work. If it should become necessary to stop work, the Contractor shall store materials and protect the Work.

## 21.2 TERMINATION

A. OWNER may terminate upon the occurrence of any one or more of the following events:

1. If CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency.

2. If a petition is filed against CONTRACTOR under any chapter of the Bankrupt Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency.

3. If CONTRACTOR makes a general assignment for the benefit of creditors.

4. If a trustee, receiver, custodian, or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property or for the purpose of general administration of such property for the benefit of CONTRACTOR's creditors.

5. If CONTRACTOR admits in writing an inability to pay its debts generally as they become due.

6. If CONTRACTOR persistently fails 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 Article 1 as revised from time to time).

7. If CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction.

8. If CONTRACTOR disregards the authority of the OWNER and ENGINEER; or otherwise violates in any substantial way any provisions of the Contract Documents; OWNER may, after giving CONTRACTOR (and the surety, if there be one) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, 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), 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 finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

B. 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.

C. Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs).

**ARTICLE 22 – CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY, SERVICES, AND OTHER FACILITIES**

A. The Contractor shall fully cooperate with private and public utilities. Where the Contractor's operations are adjacent to properties or utilities, work shall not be started until arrangements for their protection have been made. The Contractor shall be solely responsible to the Owners and Operators of properties or utilities for injuries or damages. If required by the Owner, he shall furnish special Protective Public Liability and Property Damage Insurance in an amount specified. The Contractor shall co-operate with the owners of utilities if any of their facilities are removed or rearranged. The Contractor shall be responsible for costs associated with this item.

B. In the event of interruption to utility services caused by the Contractor, the Contractor shall promptly notify the proper authority. He shall cooperate in the restoration of service promptly. The Contractor shall be responsible for costs associated with this item.

C. Where construction work under this Contract is adjacent to or crosses highways, railroads, streets, roads, access facilities, or utilities under the jurisdiction of State, County, City, or other public agency, public utility or private entity, the Contractor is required to furnish such bond (cash or surety as required), insurance agreement or satisfy any other permit conditions as may be required before executing such construction work. A copy of the bond or insurance agreement (when required) must be filed with the Owner before any work is done. The Contractor is responsible for his means and methods of construction to satisfy the

permitting authority and to obtain the desired result as shown within the Contract Documents. Though the Owner will obtain the general permit, it is the responsibility of the Contractor to obtain special or supplemental permits for his means and methods of construction such as blasting permits. The Contractor is responsible for the replacement and/or repair of all existing construction, utilities, or facilities damaged in the execution of work under this Contract. The Contractor will be required to furnish releases from all authorities affected by the work before final acceptance of the work under this Contract.

**ARTICLE 23 – SATURDAY, SUNDAY, HOLIDAY, AND NIGHT WORK**

A. Work on Saturdays, Sundays, Holidays, or at night may be required when special connections to existing systems are to be made, when new facilities are to be placed in service, when existing facilities are to be taken out of service, when it is more advantageous to the utilities involved, or when an emergency arises in the work schedule. In such cases (unless required by emergency) the Owner must be notified prior to beginning work. The work should be scheduled well in advance and arrangements made for prosecution of the work with minimum inconvenience to the public.

B. All other work on Saturdays, Sundays, Holidays, or at night shall be so performed without additional expense to the Owner and with the Owner's approval. Maintenance work normally required for protection of persons, or for protection of the work or property, will be permitted at any time. No equipment or system where controls or any other complicated processes are involved shall be place in service on Friday, Saturday, Sunday, observed Holidays, or any day before observed Holidays without the consent of the Owner.

**ARTICLE 24 – AVOIDANCE OF POLLUTION CONTRIBUTION DURING CONSTRUCTION OPERATIONS**

A. The employment of all safeguards and all precautions necessary to minimize contributions of pollution to water courses during the construction operations is the responsibility of the Contractor. The proper performance of excavating and backfilling operations, the interception and diversion of surface drainage around excavated areas or areas having the soil cover disturbed, the construction of temporary terraces or dikes, the use of silt fences or other silt retaining means will be necessary to prevent concentration of run-off over freshly excavated or backfilled areas and to minimize stream pollution resulting from soil transported in run-off from the construction site. At the conclusion of the work, and after all temporary facilities have been removed, all areas disturbed by construction operations shall be restored to as good a condition as when found, or to condition as may be specified for the particular area.

**ARTICLE 25 – USE OF CHEMICALS**

A. All chemicals used during construction of the project or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reagent, or of other classification, must show approval of EPA, USDA, or FDA, according to the purposes for which the particular chemical is to be used. Application of all such chemicals and disposal of residues therefrom are dependent upon the instructions and recommendations of the manufacturers of the respective chemicals.

## ARTICLE 26 – COMPLETION DATE AND LIQUIDATED DAMAGES

A. The Engineer will issue a Notice to Proceed to the Contractor. The Notice to Proceed will state the date upon which work shall start, and the Contractor will then be allowed the number of calendar days shown in the Proposal, Contract or Supplementary Conditions.

B. The Contractor shall proceed expeditiously with adequate forces and shall achieve acceptance of all Work within the Contract Time. If the Contractor is delayed in progress of the Work by unpredictable circumstances created by a separate contractor employed by the Owner; by changes ordered in the Work; by unavoidable casualties; or by delay authorized by the Owner, then the Contract Time may be extended as provided for in Article 14.

C. Liquidated damages shall be as described herein and in the Supplementary Conditions. The number of calendar days allowed for completion of the project is stipulated in the Proposal and in the Contract and shall be known as the Contract Time. The Contractor agrees that time is a critical element for this Contract. Loss will accrue to the Owner due to delayed completion of the work; and the cost to the Owner of the administration of the Contract, including but not limited to, fines from ADEM, engineering, inspection, and supervision, will be increased as the time occupied in the work is lengthened. The Contractor agrees that for each day of delay beyond the number of calendar days herein agreed upon for the completion of the work herein specified and contracted for (after due allowance for such extension of time as is provided for in General Conditions), the Owner may withhold, permanently, from the Contractor's total compensation, the stipulated damages for each day of such delay. Should the amount otherwise due the Contractor be less than the amount of such ascertained and liquidated damages, the Contractor and his Surety shall be liable to the Owner for such deficiency.

D. Should the Owner not deduct liquidated damages when it is first entitled to, this shall in no way limit the Owner’s right to deduct or claim the entire liquidated damages at whatsoever time the Owner may desire. It is understood and agreed that the above deduction is not a penalty, but money due to reimburse the Owner for inconvenience and damage to the general public, due to the delay in the completion of the Project and is reasonable. The collection of liquidated damages by the Owner shall not constitute an election or waiver by the Owner of recovery of additional delay or non-delay related damages from the Contractor, and the Owner expressly reserves the right to recover actual damages for other harms resulting from delay. The provisions of the liquidated damage clause shall apply and continue to apply even if the Contractor terminates or abandons the Project prior to the scheduled completion dates.

E. The amounts of such liquidated damages and actual damages incurred by reason of failure to complete the work stipulated in the Contract are hereby agreed upon as reasonable estimates of the costs which may be accrued by the Owner. It is expressly understood and agreed that these amounts are not to be considered in the nature of penalties, but as damages which have accrued against the Contractor. The Owner shall have the right to deduct such damages from any amount due, or that may become due the Contractor, or the amount of such damages shall be due and collectible from the Contractor or Surety.

## ARTICLE 27 – SALVAGE MATERIALS AND UNUSED EQUIPMENT OR MATERIALS

A. All existing materials and/or equipment removed and not required to be reused or relocated remains the property of the Owner. These materials and equipment will be stored orderly at

the job site in accordance with the Owner's instructions. All unusable items as determined by the Owner will be disposed by the Contractor as excess materials.

B. All unused construction materials or equipment remaining at completion of the project will remain the property of the Contractor unless the Owner has purchased unused property through the Contract and has rightful ownership or agrees to purchase or accept ownership of materials or equipment. Making payment of stored materials throughout the job does not constitute the Owner's willingness to purchase unused materials or equipment at the end of the Work.

**ARTICLE 28 – STORAGE OF MATERIALS AND/OR EQUIPMENT**

A. Materials and/or equipment to be incorporated in the work shall be properly housed or otherwise protected from corrosion and damage so as to ensure the preservation of their finish, quality, and fitness for the work. Where considered necessary to secure proper protection, the materials shall be placed on racks, platforms, or hard clean surfaces not subject to surface drainage. Factory finished items shall be stored above ground, covered, individually sealed, or housed indoors as required. Equipment shall as a minimum be stored and maintained in accordance with the manufacturer's recommendations. The Contractor shall be aware of the potential difficulties involved in the storage of equipment fitted with bearings which may suffer damage from a long period of idleness, and shall take such precautionary measures as may be required to preserve the life expectancy of the bearings. Materials not properly stored, housed, and maintained in condition for service as intended will be deducted from the stored materials and will not be incorporated in the work. Full instructions on storage should be provided with the shop drawings.

B. Stored materials and equipment shall be located and arranged so as to facilitate observation. When the Contractor desires to accept delivery of material or equipment which cannot be accommodated or housed on the site of the work he may, but only with the permission of the Owner, store such material and/or equipment in an insured and bonded warehouse within a 60 mile radius of the project site. Any agreement for rental of such storage space by the Contractor shall contain a provision that the material and/or equipment thus stored shall not be subject to a lien for payment of storage. A certificate of insurance shall be furnished. The storage facility shall be climate-controlled, if appropriate. The Owner shall be protected against loss of or damage to such stored equipment by the terms and endorsements of the Contractor's insurance policies.

C. The Contractor shall develop an inventory of stored equipment showing the maintenance required during storage and containing a place for the Contractor to sign off when the maintenance is performed. The maintenance provided shall be stated, dated, and signed by the person performing the work. The Contractor shall notify the Engineer's representative sufficiently prior to performing the work to allow the representative to accompany the Contractor during the maintenance. The Stored Equipment Maintenance Inventory shall be submitted to the Engineer with each monthly pay request.

**ARTICLE 29 – U.S. PRODUCTS PREFERENCE**

A. The successful Bidder (Contractor) shall comply with ALA. CODE §39-3-1 (1975), shall agree to utilize in the execution of the Project, materials, supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories, if the same are available at reasonable and competitive prices and not contrary to any sole source

specifications. It is further stipulated that a breach of the foregoing provision of this agreement by the Contractor in failing to utilize domestic products shall result in a downward adjustment in the Contract price equal to any realized savings or benefit to the Contractor.

**ARTICLE 30 – USE OF DOMESTIC STEEL**

A. The attention of all Bidders and that of the successful Bidder (Contractor) is drawn to ALA.CODE §39-3-4 (1975), requiring the use of steel produced within the United States for municipal construction projects when specifications in the construction contract require the use of steel and do not limit its supply to a sole source. This provision is subject to waiver if the procurement of domestic steel products becomes impractical as a result of national emergency, national strike or other causes. Violations of the use of domestic steel requirements shall result in a downward adjustment in the Contact price to equal any savings or benefit to the Contractor.

**ARTICLE 31 – RECORD DRAWINGS**

A. Before any work is started, the Contractor shall obtain at his own expense one set of Plans to be used for Record Drawings. The Engineer will supply the Plans at printing cost plus ten percent (10%) to the Contractor. Record Drawings will be kept on full-size plan sheets; no half-size sheets will be permitted. The Record Drawings shall be stored and maintained in good condition at all times by the Contractor and shall be made available to the Engineer at the work site immediately at the Engineer's request. All writing, notes, comments, dimensions, etc. shall be legible. The Record Drawings shall be stored flat and shall not be rolled. The Record Drawings shall be submitted to the Engineer before the project can be accepted.

B. The Contractor shall accurately identify and document the locations of all underground and/or concealed work that he has performed and/or has been affected by his work. This shall include all equipment, conduits, pipe lines, valves, fittings and other appurtenances and underground structures that are part of the Contractor's work and their proximity to existing underground structures and utilities to the extent known. The Contractor will certify accuracy of the Record Drawings by endorsement.

C. The Contractor's work shall be documented on the Record Drawings in an on-going manner. Distances, offsets, depths, etc. shall be accurately measured from permanent fixed objects so that the Owner can expose any item of the work in the future with a minimum of effort. All such measurements shall be made before the items of work are covered or backfilled. The Contractor shall be required to expose and recover/backfill the work at his own expense if, in the Engineer's opinion, the measurements need to be verified.

**ARTICLE 32 – BARRICADES, LIGHTS, AND WATCHMEN**

A. Where the work is carried on or adjacent to any street, alley or public place, the Contractor shall, at his own cost and expense, furnish and erect such barricades, fences, lights and danger signals, shall provide such watchmen, and shall provide such other precautionary measures for the protection of persons or property and of the work as are necessary.

B. Barricades shall be painted in a color that will be visible at night. From sunset to sunrise the Contractor shall furnish and maintain at least one light at each barricade and sufficient number of barricades shall be erected to keep vehicles from being driven on or into any work

under construction. The Contractor shall furnish watchmen in sufficient numbers to protect the work.

C. The Contractor will be held responsible for all damage to the work due to failure to barricades, signs, lights, and watchmen to protect it, and whenever evidence is found of such damage the Engineer may order the damaged portion immediately removed and replaced by the Contractor at his cost and expense. The Contractor's responsibility for the maintenance of barricades, signs and lights, and for providing watchmen, shall not cease until the project shall have been accepted by the Owner.

**SECTION 00 73 00 – SUPPLEMENTARY CONDITIONS**

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**ARTICLE 1 – GENERAL**

A. The provisions of this section of the Specifications shall govern in the event of any conflict between them and the "General Conditions".

**ARTICLE 2 – PLAN SETS FOR CONTRACTOR'S USE**

A. OWNER shall furnish to CONTRACTOR up to three (3) copies of the Contract Documents for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction plus ten percent (10%).
B. The Contractor shall keep one (1) copy of all Drawings and Contract Documents in good condition readily accessible at the site of the work available to the Engineer and his authorized representatives.

**ARTICLE 3 – LOCATION OF PROJECT**

A. A map showing the general location is included in the Plans.

**ARTICLE 4 – SCOPE OF WORK**

A. See Advertisement for Bids for the Scope of Work.

**ARTICLE 5 – KNOWLEDGE OF CONDITIONS**

A. The Contractor states that he has examined all the available records and has made a field examination of the site and that he has informed himself about the character, quality, and quantity of surface and subsurface materials and other conditions to be encountered; the quantities in various sections of the work; the character of equipment and facilities needed for the prosecution of the work; the location and suitability of all construction materials; the local labor conditions; and all other matters in connection with the work and services to be performed under this contract.

**ARTICLE 6 – TIME ALLOTTED FOR COMPLETION**

A. The time allotted for completion of the work shall be 365 consecutive calendar days, which time shall begin within two (2) days of the notice to proceed, or upon the date the Contractor moves on the site to begin the work, whichever is the earliest date. After award of the Contract is made and the Contract Documents are completed, the Engineer shall issue a Notice to Proceed, notifying the Contractor to proceed with the construction of the project, subject to the provisions of this paragraph.

B. Requests for extension of time will be submitted to the Engineer per the requirements in the General Conditions. The Engineer shall ascertain the facts and the extent of the delay and shall recommend to the Owner whether it should extend the time for completing the Project. The Contractor shall provide all documentation requested by the Engineer. Extensions of time, if any, will be made by the Owner only if in accordance with the Contract Documents.

## ARTICLE 7 – LIQUIDATED DAMAGES FOR DELAY

A. Per the General Conditions and beginning with the first periodic estimate after the contract completion date, liquidating damage charges shall be assessed against the Contractor for each calendar day past either contract completion date, plus approved time extensions. The liquidating damage charges shall be deducted from the Contractor's periodic payment by the Owner. The Contractor shall be notified of the liquidating damage charge and shall have ten (10) days in which to file an appeal of the charges with the Owner. The Owner shall review the appeal and render a decision of approval or disapproval. The liquidated damages shall be $400 per day beginning from the stated or extended date of completion and continuing for so long as the project remains incomplete.

## ARTICLE 8 – TRENCH AND EXCAVATION SAFETY SYSTEM

A. The Contractor is solely responsible for ensuring that all trench and excavation safety systems required for constructing improvements that necessitate open excavations on the project are in accordance with the current edition of the "Occupational Safety and Health Administration Standard for Excavation and Trenches Safety System, 29 CFR 1926, Subpart P.

B. The Contractor, prior to beginning any excavation, shall notify the State Department of Labor (Safety Division) that work is commencing on a project with excavations greater than five feet.

C. The Contractor shall notify all Utility Companies and Owners in accordance with OSHA Administration 29 CFR 1926.651(b) (2) for the purpose of locating utilities and underground installations.

D. Where the trench or excavation endangers the stability of a building, wall, street, highway, utilities, or other installation, the Contractor shall provide support systems such as shoring, bracing, or underpinning to ensure the stability of such structure or utility.

E. The Contractor may elect to remove and replace or relocate such structures or utilities with the written approval of the Owner of the structure or utility and the Project Owner.

## ARTICLE 9 – ALABAMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT

A. All work in this contract shall be in accordance with the Alabama Underground Facilities Damage Prevention Act. The Contractor shall abide by the most current edition of this Act.

## ARTICLE 10 – MINIMUM WAGES

A. The Contractor shall comply with all State and Federal guidelines, rules or regulations regarding wages and benefits.

B. It shall be the responsibility of each Bidder to determine the consequences of the applicable provisions of the requirements, and include in his bid any costs made necessary because of them. No additional payment will be made, and no extension of Contract time will be allowed because of the provisions of these Laws. Wage rates as established by the Alabama Department of Labor are minimum for wage payments under this Contract.

**ARTICLE 11 – EXISTING STRUCTURES**

A. No Record Drawings for the existing facilities exist. The Plans show the locations of known surface and subsurface structures. However, the Engineer and Owner assume no responsibility for failure to show any or all of the existing structures on the Plans, or to show them in their exact location. It is mutually agreed that such failure shall not be considered sufficient basis for claims for additional compensation for extra work or for increasing the pay quantities in any manner whatsoever, unless the obstruction encountered requires the building of additional facilities which are not made in the Plans and Proposal, in which case the provisions in these Specifications for extra work shall apply.

B. The Contractor shall be responsible for protection of all existing structures and any damage caused by his operations shall be repaired immediately without cost to the Owner. It shall be the responsibility of the prospective Contractor to examine the site completely before submitting his bid.

**ARTICLE 12 – USE OF EXPLOSIVES**

A. The use of explosives shall be per Specification Section 31 23 18.

**ARTICLE 13 – WATER FOR CONSTRUCTION**

A. Water used for the mixing of concrete, testing, or any other purpose incidental to this project, shall be furnished by the Owner. The Contractor shall make the necessary arrangements for securing and transporting such water and shall take such water in a manner to minimize usage and at such times that will not produce a harmful drain or decrease of pressure in the Owners' water system.

B. In cases where the water usage is a direct result of waste or warranty work, the Contractor shall reimburse the Owner at current wholesale water rates or purchase costs plus twenty percent (20%) whichever is higher.

**ARTICLE 14 – MATERIAL STORAGE**

A. Materials delivered to the site of the work in advance of their use shall be stored so as to cause the least inconvenience to the surrounding residents and in a manner satisfactory to the Engineer.

**ARTICLE 15 – LIGHT AND POWER**

A. The Contractor shall provide, at his own expense, temporary lighting and facilities required for the proper prosecution and inspection of the work. At the time the Owner obtains beneficial occupancy of any of the facilities placed in satisfactory service, charges for power and light for regular operation of those involved facilities will become the responsibility of the Owner.

**ARTICLE 16 – SEQUENCE OF CONSTRUCTION**

A. Sequence of all phases of work shall be such as to provide for the least possible inconvenience to the Owner. Scheduling of work which would interfere with normal traffic operation and/or water service shall be coordinated with the Owner.

B. Before any of the facilities are taken out of service to accomplish the various items of work, the Contractor shall demonstrate to the Owner and Engineer's satisfaction that all equipment and

materials required to complete that particular item of work are on hand. As much preliminary work as is possible shall be accomplished prior to taking any unit out of service.

**ARTICLE 17 – TEST BORINGS/SUBSURFACE INFORMATION**

A. Soil characteristics provided in any soil reports are representative only at the location of the sample taken, and neither the Owner, Engineer nor Engineer's consultants will be responsible for variations in the soil characteristics at other locations. Such reports and drawings are not Contract Documents.

B. Any subsurface information, whether included in the plans, specifications, or otherwise made available to Contractor, was obtained and intended for the Owner's design and estimating purposes only.

C. The Contractor may not rely upon or make any claim against Owner, Engineer, or Engineer's Consultants 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 the Contractor and safety precautions and programs incident thereto, (2) other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings, (3) any Contractor interpretation or other conclusion drawn from any data, interpretations, opinions, or information.

**ARTICLE 18 – O&M MANUALS**

A. The Contractor shall submit Operation and Maintenance (O&M) manuals for all equipment requiring maintenance. The manual shall contain sufficient drawings, with equipment components clearly labeled and identified, such that maintenance personnel can promptly determine each and every individual component requiring maintenance or its location as discussed in the manual. The manual shall address all recommended maintenance as well as all safety precautions and procedures. The controls and panels, including but not limited to all alarms, lights, and switches, shall be clearly explained. Two initial manuals shall be submitted a minimum of 90 days prior to equipment startup for Engineer review. The manuals shall be specific for the equipment actually provided. If the O&M manual contains references to equipment components or parts or material different from that actually furnished, the Contractor shall cross out the inapplicable references or sections. The submitted manual will not be considered acceptable if it contains inapplicable references that are not marked out. The Contractor shall submit originals or very high quality copies.

B. The O&M manual for a piece of equipment shall contain an Equipment Maintenance Summary Form that summarizes all routine maintenance requirements of the equipment provided in a concise, easy to follow format. The form shall also clearly indicate maintenance frequency, required lubricants, and lubricant quantity. The form shall also clearly show any required initial oil changes due to the use of different lubricants for storage or due to short change intervals at startup. The form shall be located in its own tabbed division and the tab shall be clearly labeled "Maintenance Summary."

C. After the O&M manual is accepted by the Engineer, the Contractor shall submit 4 copies of the final O&M Manual. One copy will be returned to the Contractor.

**ARTICLE 19 – RELEASE AND CONTRACTOR'S AFFIDAVIT**

A. At the project's completion, the Contractor shall execute the attached Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

**RELEASE FORM**

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

DATE OF CONTRACT: _____

Upon receipt of the final payment and in consideration of that amount, the undersigned does hereby release the Owner and its agents from any and all claims arising under or by virtue of this Contract or modification thereof occurring from the undersigned's performance in connection with the _____

_____

project.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20 ___.

_____
Notary Public

My Commission Expires:

_____

**CONTRACTOR'S AFFIDAVIT FORM**

FROM: Contractor's Name _____

Address _____

TO: Owner's Name _____

Address _____

DATE OF CONTRACT: _____

I hereby certify that all claims for material, labor, and supplies entered into contingent and incident to the construction or used in the course of the performance of the work on _____

_____

have been fully satisfied.

_____
Contractor's Signature

_____
Title

Subscribed and sworn to before me this _____ day of _____, 20___.

_____
Notary Public

My Commission Expires:

_____

The Surety Company consents to the release of the retained percentage on this project with the understanding that should any unforeseen contingencies arise having a right of action on the bond that the Surety Company will not waive liability through the consent to the release of the retained percentage.

Dated _____
Surety Company

By _____
Resident Agent, State of Alabama

# APPENDIX A

# STATE OF ALABAMA
# BEST MANAGEMENT PRACTICES

## APPENDIX A – STATE OF ALABAMA BEST MANAGEMENT PRACTICES

The following Best Management Practices (BMPs) required by the Alabama Department of Management (ADEM) must be followed, as appropriate, in order for any authorizations by a Nationwide Permit (NWP) in the State of Alabama to be valid:

1.01 The applicant must implement appropriate BMPs for the prevention and control of nonpoint sources of pollutants, e.g., sediment, oil and grease, chemicals, etc., during project construction and subsequent operation (ADEM Administrative Code, Chapters 6-9 and Appendices A and B, and the "Alabama Nonpoint Source Management Program 1989" or other appropriate sources). Immediately after completion of the project, the applicant must implement measures to ensure permanent revegetation or cover of all disturbed areas.

1.02 The applicant shall implement an ADEM accepted Spill Prevention Control and Counter Measures Plan for all fuel or chemical storage tanks or facilities. The applicant shall maintain on-site, or have readily available, sufficient oil and grease absorbing material and flotation booms to contain and clean up fuel or chemical spills and leaks.

1.03 All construction and worker debris, e.g., trash, garbage, etc., must be immediately removed and disposed of in an approved manner. Also, soil contaminated by paint or chemical spills, etc., must be immediately cleaned up or be removed and disposed in an approved manner.

1.04 Appropriate measures must be taken to prevent the deposition of airborne pollutants, e.g., spray paint, herbicides, excessive road dust, etc., from entering the waterbody.

1.05 Permanent or temporary raised creek crossings must be constructed with pipe(s) to safely pass expected mean water flow of the creek for the time of year and length of time that they are installed. Placement of rock fill without pipe(s) for passage of water is not acceptable. Each raised creek crossing must be designated to ensure structure integrity and stability for safe passage of water flow generated by expected precipitation events while the structure is in place.

1.06 The applicant is required to monitor turbidity levels in the affected water body before, during, and after performing any construction, dredging, filling, or other activity authorized by the NWP. The applicant must cease operations should turbidity resulting from project implementation exceed background turbidity by more than 50 NTU. Operations may resume when the turbidity decreases to within acceptable levels.

1.07 All materials used as fill or for construction purposes must be non-toxic, non-acid forming, and free of solid waste or other debris.

1.08 The applicant shall perform regular cleanup and proper disposal of floating or submerged trash and garbage retained or trapped by any structures. If appropriate, the applicant shall implement an ADEM accepted system for the collection, storage, treatment, and disposal of sewage and other putrescible wastes.

1.09 Marinas may not increase the number of berthing areas unless they are equipped with all facilities and appurtenances typically required by ADEM for new marinas, i.e., trash receptacles, receptacle for fish offal and carcasses, an accepted spill prevention control and countermeasure plan for fueling facilities, and a sewage pump-out system, where appropriate.

1.10 Bilge or ballast water pumped from ships or boats, e.g., dredge or construction barges, tugboats, fishing boats, pleasure craft, etc., shall not be discharged into waters of the state of Alabama without removal of solids, oils, fuel, petroleum by-products, and toxic compounds. No rubbish, trash, garbage, or other such materials shall be discharges overboard into waters of the State of Alabama. Litter and refuse from vessels shall be disposed in a manner consistent with state and local regulations. Toilet wastes, domestic wastewater, and other domestic waste shall not be discharged into waters of the State of Alabama without treatment by an approved marine sanitation devise.

1.11 Dredged material shall not be side cast, or otherwise placed, in adjacent waters or wetlands.

END OF APPENDIX A

# APPENDIX B

# ALABAMA DEPARTMENT OF TRANSPORTATION PERMIT

ALABAMA
DEPARTMENT OF TRANSPORTATION
NORTH REGION – GUNTERSVILLE AREA – HUNTSVILLE DISTRI
OFFICE OF TRANSPORTATION ADMINISTRATOR

4711 GOVERNOR'S HOUSE DRIVE
HUNTSVILLE, ALABAMA 35805
TELEPHONE (256) 837-0111
1-888-574-2272
FAX (256) 837-5165

KAY IVEY
GOVERNOR

JOHN R. COOPER
TRANSPORTATION DIRECTOR

August 12, 2020

**Mr. Emory DeBord**
**Water and Wastewater Board of the City of Madison dba Madison Utilities**
101 Ray Sanderson Drive
Madison, AL 35758

**RE: Permit No. 1-2-10623**
**Madison County**

Dear Mr. DeBord:

Attached is an approved copy of the above-referenced permit **to parallel the Interstate Highway 565 with a 42-inch ductile iron (DI) gravity sewer main pipe from milepost 8.719 to 8.772, and install one (1) sewer manhole, as shown on the attached approved plans.** The permit is a binding contract and all requirements and regulations contained therein must be followed. Any deviation in alignment, location, materials, method of installation, etc. must be reviewed and approval given prior to the commencement of work.

It is imperative that the construction work be prosecuted in a manner which ensures compliance with the Clean Water Act, 1972 and the Alabama Nonpoint Source Management Program, 1989. The utility work shall include the implementation of "Best Management Practices" (BMP's) for prevention and control of Nonpoint Sources of Pollutants (NPS). Additional information can be obtained by referring to ADEM Administrative Code, Chapter 6-9, Appendices A and B, and the "Alabama Nonpoint Source Management Program, 1989".

This does not appear to conflict with any Federal Aid Project at this time nor in the foreseeable future. However, this does not conclude that improvements will not be made to the Highway in this area at some future date and part or all of this installation may have to be relocated.

All traffic control must conform to the **Manual on Uniform Traffic Control Devices**. In the event the utility company/contractor propose to use methods of traffic control other than those examples shown in the MUTCD, a traffic control plan must be submitted to the District Office for review and approval prior to work operations beginning.

ALABAMA
DEPARTMENT OF TRANSPORTATION
NORTH REGION – GUNTERSVILLE AREA – HUNTSVILLE DISTRI
OFFICE OF TRANSPORTATION ADMINISTRATOR

4711 GOVERNOR'S HOUSE DRIVE
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1-888-574-2272
FAX (256) 837-5165

KAY IVEY
GOVERNOR

JOHN R. COOPER
TRANSPORTATION DIRECTOR

**Your contractor or work crew must have a copy of the approved permit on the job site during construction at all times**. Should there be a conflict with another utility or property owner, it is your responsibility to resolve such conflicts and reach an agreement with the company or individual involved. All contingencies are the responsibility of the Permittee.

All work shall be in accordance with the State specifications. Periodic on-site inspections will be made during construction. Violations of these or any other requirements **will** result in work on the State right of way being halted immediately.

This is your authorization to begin work. Please notify **Mr. Khalid Sharfi**, District Permit Coordinator at **(256) 837-0111** or the above address when you are ready to start work. Please give us **24 hours' notice** before beginning construction. Should construction be halted for more than 2 days, please re-notify us. Failure to notify could cause cancellation of your permit or unnecessary expense on your part. **Due to the traffic volumes involved, any lane closures shall be discussed with this office prior to construction. This will be handled on a case by case basis, however, at least (24) hours' notice shall be given to the Alabama Department of Transportation in order to coordinate with other entities involved and allow the motoring public to be informed. Operations scheduled during peak traffic volume hours may require longer notice**. Also, supply this office with the name of a contact person should a problem arise on this project.

Please notify this office upon completion to set a time and date for our final inspection.

Sincerely,

John Snider, PLS
District Administrator

JS/ks
Attachment
C: file

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**PERMIT AGREEMENT FOR THE ACCOMMODATION OF UTILITY FACILITIES ON PUBLIC RIGHT-OF-WAY**

County **Madison**

Route Number **Interstate 565**

Milepost **8.719 to 8.772**

*FOR OFFICIAL USE ONLY*
DATE RECEIVED FROM APPLICANT: 07/15/2020
PERMIT NUMBER: 1-2-10623

Bonding Agency **Capitol Indemnity Corporation** Bond Number **A190056761**

Associated Permits and/or Documents **Plans, Surety Bond, and NPDES Discharge Permit**

THIS AGREEMENT is entered into this the **15th** day of **July ~~May~~**, 20**20**, by and between the Alabama Department of Transportation acting by and through its Transportation Director hereinafter referred to as ALDOT and **Water and Wastewater Board of the City of Madison**, a Utility hereinafter referred to as the APPLICANT.

WITNESSETH

WHEREAS, the APPLICANT desires to have its facilities accommodated on public highway right-of-way in **Madison** County, Alabama consisting approximately of the following:

**To parallel Interstate 565 with a 42" ductile iron gravity sewer pipe starting at mile post 8.719 to mile post 8.772 and to install one sewer manhole as shown on the attached plan and profile**

; and

WHEREAS, ALDOT hereby grants to the APPLICANT approval to cross or locate its facilities on the public right-of-way at the location and in the manner hereinafter set forth:

NOW, THEREFORE, it is agreed by and between the parties hereto as follows:

RECEIVED JUL 2020 DISTRICT 2 ALABAMA DEPT OF TRANSPORTATION HUNTSVILLE, AL

1. The APPLICANT will install its facilities on public right-of-way in accordance with plans and specifications of the APPLICANT as approved by ALDOT which plans and specifications are hereby made a part of this permit by reference.

2. In the installation of facilities and performing work under this agreement, the APPLICANT will conform to the provisions of the latest edition of the Alabama Department of Transportation Utility Manual, which manual is of record in ALDOT and is hereby made a part of this permit by reference.

3. The national Manual on Uniform Traffic Control Devices, ALDOT approved edition, is hereby made a part of this permit by reference and will be conformed to as the provisions thereof are applicable to such work. Such Manual is of record in ALDOT at the execution of this Agreement.

4. The Federal Water Pollution Control Act, The Federal Insecticide, Fungicide, and Rodenticide Act, The Alabama Water Pollution Control Act, The Alabama Environmental Management Act, The Clean Water Act (1987), and the Alabama Nonpoint Source Management Program (1989) are hereby made a part of this permit by reference.

5. The APPLICANT will conform to the regulations of the Environmental Protection Agency (EPA) and of the Alabama Department of Environmental Management (ADEM), latest edition, for both installation and maintenance of such facilities.

The APPLICANT will provide proof of applicable permit coverage and conform to the above referenced regulations for both the facility installation and maintenance of permitted facilities and areas of rights-of-way. The APPLICANT must provide a copy of the Notice of Intent (NOI) issued by ADEM. This will assure compliance with Phase II of storm-water construction requirements. In the event a NOI is not required, APPLICANT must submit to ALDOT a Best Management Practices (BMP) plan to control sediment run-off.

6. In the event that ALDOT is issued a citation or any other enforcement document by ADEM/EPA for failure to comply with applicable requirements, it shall be the responsibility of the APPLICANT to bring all BMPs into compliance and to pay for any fines, assessments, etc. that may be issued to ALDOT by ADEM/EPA.

7. Underground Damage Prevention Legislation, Alabama Act 94-487, is hereby made a part of this permit by reference. The APPLICANT will conform to the above referenced regulations for both the facility installation and maintenance of permitted facilities and areas of rights-of-way. Should the permitted work require a locate request ticket, no work shall begin until a copy of such ticket is obtained and the APPLICANT shall keep a copy of such ticket at the site of work.

8. If hazardous materials, wastes, substances, or as otherwise defined by Code of Alabama § 6-5-332.1(a)(2) (1993 Repl. Vol.) are encountered in the execution of this Agreement it will be the responsibility of the APPLICANT to notify the proper agency responsible for said hazardous materials and to comply with any and all environmental regulations as established by the Environmental Protection Agency (EPA), Alabama Department of Environmental Management (ADEM), and of the Occupational Safety and Health Administration (OSHA) in the proper disposition of the hazardous materials encountered.

9. This permit is valid for the contract period which is defined as follows: All proposed work as described and submitted in the permit documents must be completed within one year from the approved date of the permit and for a period covering one year from ALDOT acceptance of proposed work.

10. The APPLICANT will perform or cause to be performed the work applied for in this permit contract and will restore the highway in the work area in as good condition as the same was prior to the work and will maintain the accomplished work and highway work area in a condition satisfactory to ALDOT. Should the APPLICANT not maintain the work or create an unsafe condition during the contract period, ALDOT reserves the right to remove any work and restore the ROW to a safe condition at the expense of the APPLICANT and the APPLICANT agrees to pay ALDOT all such costs as a result.

11. Once work is begun, the APPLICANT shall pursue the work continuously and diligently until completion. Should the APPLICANT feel that the work cannot be completed in a one year period, they shall submit in writing (30 days prior to the termination date) to ALDOT the reasons for an extension of time. ALDOT will determine whether an extension may be approved.

12. The APPLICANT will file with ALDOT an acceptable certified check or bond in the penal amount of $ **25,000** (Bond Number: **A190056761**) to guarantee the faithful performance of this permit contract in its entirety during the contract period as defined in item 9. Upon satisfactory completion and acceptance of all work provided for in this permit contract, the check or bond, as applicable, will be returned to the APPLICANT; otherwise, the proceeds from the check, or any amount received by ALDOT as a result of the bond, will be applied to complete and fulfill the permit contract terms. In the instance that ALDOT determines a bond on record is necessary, the APPLICANT shall provide such bond to ALDOT. The bond amount shall be determined by ALDOT.

13. Indemnification Provisions. Please check the appropriate type of applicant:

By entering into this agreement, the APPLICANT is not an agent of the State, its officers, employees, agents or assigns. The APPLICANT is an independent entity from the State and nothing in this agreement creates an agency relationship between the parties.

☒ If the applicant is an incorporated municipality or gas district then:

Subject to the limitations on damages applicable to municipal corporations under Ala. Code § 11-47-190 (1975), the APPLICANT shall defend, indemnify, and hold harmless the State of Alabama, ALDOT, its officers, officials, agents, servants, and employees, in both their official and individual capacities, from and against (1) claims, damages, losses, and expenses, including but not limited to attorneys' fees arising out of, connected with, resulting from or related to the work performed by the APPLICANT, or its officers, employees, contracts, agents or assigns (2) the provision of any services or expenditure of funds required, authorized, or undertaken by the APPLICANT pursuant to the terms of this Agreement, or (3) any damage, loss, expense, bodily injury, or death, or injury or destruction of tangible property (other than the work itself), including loss of use therefrom, and including but not limited to attorneys' fees, caused by the negligent, careless or unskillful acts of the APPLICANT its agents, servants, representatives or employees, or the misuse, misappropriation, misapplication, or misexpenditure of any source of funding, compensation or reimbursement by the APPLICANT, its agents, servants, representatives or employees, or anyone for whose acts the APPLICANT may be liable.

☐ If the applicant is county government then:

The APPLICANT shall be responsible at all times for all of the work performed under this agreement and, as provided in Ala. Code § 11-93-2 (1975), the APPLICANT shall protect, defend, indemnify and hold harmless the State of Alabama, The Alabama Department of Transportation, its officials, officers, servants, and employees, in both their official and individual capacities, and their agents and/or assigns.

For all claims not subject to Ala. Code § 11-93-2 (1975), the APPLICANT shall indemnify and hold harmless the State of Alabama, the Alabama Department of Transportation, the officials, officers, servants, and employees, in both their official and individual capacities, and their agents and/or assigns from and against any and all action, damages, claims, loss, liabilities, attorney's fees or expense whatsoever or any amount paid in compromise thereof arising out of, connected with, or related to the (1) work performed under this Agreement, (2) the provision of any services or expenditure of funds required, authorized, or undertaken by the APPLICANT pursuant to the terms of this agreement, or (3) misuse, misappropriation, misapplication, or misexpenditure of any source of funding, compensation or reimbursement by the APPLICANT, its agents, servants, representatives, employees or assigns.

☐ If the applicant is a state governmental agency or institution then:

The APPLICANT shall be responsible for damage to life and property due to activities of the APPLICANT of employees of APPLICANT in connection with the work or services under this Agreement. The APPLICANT agrees that its contractors, subcontractors, agents, servants, vendors or employees of APPLICANT shall possess the experience, knowledge and skill necessary to perform the particular duties required or necessary under this Agreement. The APPLICANT is a state institution and is limited by the Alabama Constitution in its ability to indemnify and hold harmless another entity. The APPLICANT maintains self-insurance coverage applicable to the negligent acts and omissions of its officers and employees, which occur within the scope of their employment by the APPLICANT. The APPLICANT has no insurance coverage applicable to third-party acts, omissions or claims, and can undertake no obligation that might create a debt on the State Treasury. The APPLICANT agrees ALDOT shall not be responsible for the willful, deliberate, wanton or negligent acts of the APPLICANT, or its officials, employees, agents, servants, vendors, contractors or subcontractors. The APPLICANT shall require, its contractors and its subcontractors, agents, servants or vendors, as a term or its contract with the APPLICANT, to include ALDOT as an additional insured in any insurance policy providing coverage for the work to be performed pursuant to and under this Agreement and to provide the APPLICANT a copy of the insurance policy declaration sheet confirming the addition of ALDOT thereto.

☐ If the applicant is not a county, incorporated municipality, or state governmental agency or institution then:

The APPLICANT will protect, defend, indemnify and hold harmless the State of Alabama, ALDOT, the officials, officers, and employees, in both their official and individual capacities, and their agents and/or assigns, from and against any and all actions, damages, claims, loss, liabilities, attorney's fees or expense whatsoever or any amount paid in compromise thereof arising out of or connected with the work performed under this Permit, and/or the APPLICANT's failure to comply with all applicable laws or regulations.

14. The APPLICANT will be obligated for the payment of damages occasioned to private property, public utilities or the general public, caused by the legal liability (in accordance with Alabama and/or Federal law) of the APPLICANT, its agents, servants, employees or facilities.

15. ALDOT in executing this Agreement does not in any way assume the responsibility for the maintenance of the facilities of the APPLICANT, nor the responsibility for any damage to the facilities caused by third parties.

16. The APPLICANT will have a copy of this Agreement on the project site at all times while said work is being performed.

17. Nothing contained in this Permit Agreement, nor the issuance or receipt thereof, shall be construed to alter or affect the title of ALDOT to the public right-of-way nor to increase, decrease or modify in any way the rights of the APPLICANT provided by law with respect to the construction, operation or maintenance of its facilities on the public right-of-way.

18. Reimbursement for future relocations of the APPLICANT'S facilities will be in accordance with State law in effect at the time such relocations are made.

19. The APPLICANT stipulates that the specific use of these facilities located upon public right-of-way is **to increase the sanitary sewer capacity to the entire City of Madison**.
The APPLICANT further stipulates that should this specific use change at any time in the future that the APPLICANT will notify ALDOT immediately of the change.

This Agreement is deemed to be executed on the date hereinabove set forth by the parties hereto in their respective names by those persons and officials thereunto duly authorized. Witness our hands and seals, this the 15th day of July, 2020.

**Water and Wastewater Board of the City of** Madison
Legal Name of Applicant

WITNESS:

By:
Authorize Signature and Title for Applicant

**Emory DeBord**
Typed or Printed Name of Signee

**101 Ray Sanderson Dr**
Address Line 1

**Madison, AL 35758**
Address Line 2

**256-772-0253**
Telephone Number

*FOR OFFICIAL USE ONLY*

**RECOMMENDED FOR APPROVAL:**

| | Printed Name | Signature | Date |
|---|---|---|---|
| DISTRICT: | John Snider, PLS | | 07/15/2020 |
| AREA: | A.R. Camp | A.R. Camp DWS | 7/27/2020 |
| REGION: | | | |

**APPROVED:**
**ALABAMA DEPARTMENT OF TRANSPORTATION**
**ACTING BY AND THROUGH ITS TRANSPORTATION DIRECTOR**

**(PLEASE CHECK APPROPRIATE BOX)**
- ☑ **CENTRAL OFFICE**
- ☐ **REGION**
- ☐ **AREA**
- ☐ **DISTRICT**

| | Printed Name | Signature | Date |
|---|---|---|---|
| By: | Stacey N. Glass | Stacey N. Glass KW | 8/7/2020 |

CapSpecialty

Capitol Indemnity Corporation
Platte River Insurance Company

RECEIVED
JAN 2020
DISTRICT 2
ALABAMA DEPT OF
TRANSPORTATION
HUNTSVILLE, AL

# VERIFICATION CERTIFICATE

Current Billing Term From 01/18/2020 to 01/18/2021

The Capitol Indemnity Corporation (hereinafter called the Surety), in consideration of the payment of the premium of ($300.00), bond numbered A190056761, in the amount of Twenty-Five Thousand and 00/100 Dollars ($ 25,000.00) on behalf of Water and Wastewater Board of the City of Madison **(Principal),** in favor of Alabama Department of Transportation **(Obligee)**, issued effective the 18th day of January 2020 continues in full force and effect until canceled in accordance with the terms, conditions and limitations of said bond.

This verification certificate is executed upon the express condition that the Surety's liability under said bond, together with this and all previous verification certificates shall not be cumulative and shall in no event exceed the amount specifically set forth in said bond or any existing certificate changing the amount of said bond.

Signed, sealed and dated: January 16th, 2020 .

Surety: Capitol Indemnity Corporation

By: Jennifer S. Freeman
Jennifer S. Freeman, Attorney-In-Fact

CAPITOL INDEMNITY CORPORATION ★ WISCONSIN ★ CORPORATE SEAL

RE: Highway Right of Way Permit Bond (No Subdivisions) - up to $40,000
Highway Right of Way Permit

State of Georgia
County of Coweta

This instrument was acknowledged before me this 16th day of January, 2020, by Jennifer S. Freeman, Attorney-in-fact for Capitol Indemnity Corporation.

✓ Personally Known
_____ Produced Identification
Type and # of ID _____

MICHELLE S. DELIGNE
NOTARY PUBLIC
COWETA COUNTY
GEORGIA
EXPIRES
DEC. 10, 2022

Michelle S. Deligne
Michelle S. Deligne
Notary Public, State of Georgia

# BOND
# FOR PERFORMANCE OF THE WORK

STATE OF ALABAMA
MONTGOMERY COUNTY

**PERMIT NUMBER:** 1-2-10623
**BOND NUMBER:** A190056761

KNOWN ALL MEN BY THESE PRESENTS: That we _____

Water and Wastewater Board of the City of Madison, as Principal, and _____

Capitol Indemnity Corporation, as Surety, are held and firmly bound unto the ALABAMA DEPARTMENT OF TRANSPORTATION, in the penal sum of $25,000.00 for the payment for which well and truly to be made, we hereby bind ourselves, our heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, we have hereunto set our hands and affixed our seals, this the 18th day of January, 2019.

PROVIDED, HOWEVER, that the condition of this obligation is such that whereas the above bound principal hereon, Namely, Water and Wastewater Board of the City of Madison this day entered into a permit Contract as applicant with the ALABAMA DEPARTMENT OF TRANSPORTATION for work on highway right of way, attached hereto and incorporated herein, required by the Department as provided for in the permit contract, to be performed in Madison County, Alabama, Highway Number all, a copy of which permit Contract is hereto attached.

NOW, THEREFORE, in the event the said Water and Wastewater Board of the City of Madison, as such applicant shall faithfully and promptly perform the permit contract and all the conditions and requirements thereof, then this obligation shall be null and void and of no effect, otherwise to remain and be in full force and effect.

PROVIDED, further, that upon the failure of the said _____ Water and Wastewater Board of the City of Madison _____, as such applicant, to promptly and efficiently prosecute said permit contract work in any respect, in accordance with the permit contract, the above bound Capitol Indemnity Corporation _____ as Surety, shall take charge of said work and complete the permit contract at their own expense, pursuant to its terms. Said Surety may, if they so elect, by written direction given to the State Transportation Director authorize the Director to complete or cause to be completed the said permit contract work at the expense of said Surety, and such Surety hereby agrees and binds Surety to pay the cost and expense of the completion of such permit contract work.

In the event said Principal shall fail or delay the prosecution and completion of said permit contract work and said Surety shall also fail to act promptly as hereinbefore provided, then said Transportation Director may cause ten days notice of such failure to be given, either, either to said Principal or Surety ,and at the expiration of said ten days, if said Principal or Surety do not proceed promptly to complete the permit contract, including all work provided therein, the ALABAMA DEPARTMENT OF TRANSPORTATION shall have the authority to cause said permit contract work to be done and accomplished and when the same is completed and cost thereof determined, the said Principal and Surety shall and hereby agree to pay any and all cost of said permit contract work.

The said Principal and Surety further agree as a part of this obligation to pay all such damages of any kind to person or property that may result from a failure in any respect to perform and complete said permit Contract including all work therein provided.

The decision of the Director of the Alabama Department of Transportation upon any question connected with the execution of the permit Contract, or any failure or delay in the prosecution of the permit contract work, attached hereto and incorporated herein, by said Principal or Surety, shall be final and conclusive.

WITNESS our hands and seals, this 18th day of January, 2019.

ATTEST:

Gary Sparks, Finance Manger
(Name and Title)

(Signature of Applicant Official)

Emory DeBord, General Manager
(Title of Officer Signing)

(Affix Seal) Capitol Indemnity Corporation
Name of Surety

Water and Wastewater Board of the City of Madison
Legal Name of Applicant (Company) as Principal

101 Ray Sanderson Dr, Madison, AL 35758
Address

256-772-0253
Contact Number

By: Jennifer S Freeman
Attorney in Fact – for Surety
JENNIFER S FREEMAN

## NOTICE TO INSURANCE PRODUCER

Countersigned by Alabama Licensed Insurance Producer for Surety, if applicable:

N/A
Name (signature)

N/A
Address

N/A
License Number

Please print or write legibly your name, complete address, and license number below:

N/A
Name (print)

(A copy of the Power of Attorney properly executed by the Company authorizing the Agent signing above to bind the Company as Surety on this Bond must be attached hereto. Said Power of Attorney must be dated so as to correspond with the execution date of the bond.)

# CAPITOL INDEMNITY CORPORATION
# POWER OF ATTORNEY

A190056761
Bond Number

**KNOW ALL MEN BY THESE PRESENTS**, That the **CAPITOL INDEMNITY CORPORATION**, a corporation of the State of Wisconsin, having its principal offices in the City of Middleton, Wisconsin, does make, constitute and appoint

JENNIFER S FREEMAN
Name of licensed Individual

its true and lawful Attorney(s)-in-fact, to make, execute, seal and deliver for and on its behalf, as surety, and as its act and deed, any and all bonds, undertakings and contracts of suretyship, provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed in amount the sum of

$ 25,000.00 (Bond Amount) for A190056761 (Bond Number) on behalf of Water and Wastewater Board of the City of Madison (Principal)

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of **CAPITOL INDEMNITY CORPORATION** at a meeting duly called and held on the 8th day of January, 2002.

"**RESOLVED**, that the President, Executive Vice President, Vice President, Secretary or Treasurer, acting individually or otherwise, be and they hereby are granted the power and authorization to appoint by a Power of Attorney for the purposes only of executing and attesting bonds and undertakings, and other writings obligatory in the nature thereof, one or more resident vice-presidents, assistant secretaries and attorney(s)-in-fact, each appointee to have the powers and duties usual to such offices to the business of this company; the signature of such officers and seal of the Company may be affixed to any such power of attorney or to any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company, and any such power so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking or other writing obligatory in the nature thereof to which it is attached. Any such appointment may be revoked, for cause, or without cause, by any of said officers, at any time."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner – Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

**IN WITNESS WHEREOF**, the **CAPITOL INDEMNITY CORPORATION** has caused these presents to be signed by its officer undersigned and its corporate seal to be hereto affixed duly attested, this 3rd day of May, 2017.

**Attest:**

John E. Rzepinski
Vice President, Treasurer & CFO

Suzanne M. Broadbent
Assistant Secretary

CAPITOL INDEMNITY CORPORATION

Stephen J. Sills
CEO & President

STATE OF WISCONSIN }
COUNTY OF DANE } S.S.:

On the 3rd day of May, 2017 before me personally came Stephen J. Sills, to me known, who being by me duly sworn, did depose and say: that he resides in the County of New York, State of New York; that he is President of **CAPITOL INDEMNITY CORPORATION**, the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to 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.

David J. Regele
Notary Public, Dane Co., WI
My Commission Is Permanent

STATE OF WISCONSIN }
COUNTY OF DANE } S.S.:

I, the undersigned, duly elected to the office stated below, now the incumbent in **CAPITOL INDEMNITY CORPORATION**, a Wisconsin Corporation, authorized to make this certificate, **DO HEREBY CERTIFY** that the foregoing attached Power of Attorney remains in full force and has not been revoked; and furthermore, that the Resolution of the Board of Directors, set forth in the Power of Attorney is now in force.

Signed and sealed at the City of Middleton, State of Wisconsin this 18th day of January, 20 19.

Antonio Celii
General Counsel, Vice President & Secretary

THIS DOCUMENT HAS BEEN GENERATED FOR A SPECIFIC BOND. IF YOU HAVE ANY QUESTIONS CONCERNING THE AUTHENTICITY OF THIS DOCUMENT CALL 800-475-4450.

**LANCE R. LEFLEUR**
DIRECTOR

**KAY IVEY**
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

JAN 30 2020

Mark Bland
Water and Wastewater Board of the City of Madison
101 Ray Sanderson Drive
Madison, Alabama 35758

RE: **Request of Permit Certification for ALDOT**
Email to ADEM Dated January 29, 2020
ALDOT Right Of Way - Madison County
Madison WWTP
NPDES Permit No. AL0071897

Dear Mr. Bland:

Our office has received the subject January 29, 2020 email notifying the Department of a need to certify that the Madison WWTP has a valid NPDES discharge permit. The certification is required so that the Water and Wastewater Board of the City of Madison can attain permits to access ALDOT right-of-ways for collection system maintenance. The Department has requested ALDOT to accept the Permit Cover Page as verification that the Sanitary Sewer Service Provider is authorized to discharge treated wastewater. In the future, this Permit Cover Page should provide the required verification and a letter from ADEM should not be required unless ALDOT has questions regarding the status of a facility's discharge permit.

ADEM Admin. Code R. 335-6-6-.06 states that the terms and conditions of an expiring NPDES permit are automatically extended until the effective date of a new NPDES permit if the permittee has submitted a timely and complete application for reissuance of an NPDES permit and the delay in permit issuance has not been caused by the actions of the permittee. The Madison WWTP is permitted to discharge treated wastewater. Please note, however, that it is the responsibility of the permittee to review its design capacity and overall system operation to ensure that its permit limits can be consistently achieved prior to any maintenance or proposed additional sources. By the way of this letter, ADEM hereby notifies the permittee that the Madison WWTP has a valid and effective permit to discharge treated wastewater.

If I can be of any additional assistance, please feel free to contact me by phone at (334) 271-7811 or by email at nicholas.lowe@adem.alabama.gov.

Sincerely,

Nicholas Lowe

Nicholas Lowe
Municipal Section
Water Division

**Birmingham Branch**
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

**Decatur Branch**
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

**Mobile Branch**
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

**Mobile-Coastal**
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

**LANCE R. LEFLEUR**
DIRECTOR

**ROBERT J. BENTLEY**
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

SEP 2 4 2014

Ricky Pounders, General Manager
Water & Wastewater Board of the City of Madison
101 Ray Sanderson Drive
Madison, Alabama 35758

RE: Final Permit
NPDES Permit No. AL0071897
Madison WWTP
Madison County, Alabama

Dear Mr. Pounders:

Attached is the issued copy of the above referenced permit. Please note the permit limitations and conditions with which the permittee must comply.

Future monitoring data should be submitted in accordance with the conditions of your permit. Please see PART I.C for your reporting requirements. To reduce the paperwork burden for both the Department and the Permittee, when submitting the required Discharge Monitoring Reports (DMRs), please **do not submit** lab worksheets, logs, reports or other paperwork not specifically required by the permit unless requested by ADEM staff.

Our records indicate that you are currently utilizing the Department's web-based electronic environmental (E2) reporting system for submittal of DMRs. Your E2 DMRs should automatically update to correspond with the attached permit upon the effective date of the permit.

If you have questions regarding this permit or monitoring requirements, please contact Stephanie Ammons at (334) 274-4151.

Sincerely,

Emily D. Anderson

Emily Anderson, Chief
Municipal Section
Water Division

Enclosure: Final Permit

cc: Mr. Mark Nuhfer/Environmental Protection Agency
Ms. Elaine Snyder/U.S. Fish and Wildlife Services
Mr. Marion Bertolotti/ADEM

**Birmingham Branch**
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

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2715 Sandlin Road, S. W.
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(256) 353-1713
(256) 340-9359 (FAX)

**Mobile Branch**
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

**Mobile-Coastal**
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (FAX)

ADEM
Alabama Department of Environmental Management

# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

| | |
|---|---|
| PERMITTEE: | Water & Wastewater Board of the City of Madison<br>101 Ray Sanderson Drive<br>Madison, Alabama 35758 |
| FACILITY LOCATION: | Madison WWTP (8.25 MGD)<br>701 Landess Circle<br>Madison, Alabama 35756<br>Madison County |
| PERMIT NUMBER: | AL0071897 |
| RECEIVING WATERS: | Tennessee River |

*In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1378 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.*

| | |
|---|---|
| ISSUANCE DATE: | SEPTEMBER 24, 2014 |
| EFFECTIVE DATE: | OCTOBER 1, 2014 |
| EXPIRATION DATE: | SEPTEMBER 30, 2019 |

Glenda L. Dean

Alabama Department of Environmental Management

# ABBREVIATIONS

| | |
|---|---|
| @ | AT |
| AFF | ABOVE FLOOR FINISH |
| AL, ALUM | ALUMINUM |
| APPROX | APPROXIMATE |
| ASPH | ASPHALT |
| ASSY | ASSEMBLY |
| BLDG | BUILDING |
| BLK | BLOCK |
| BM | BENCHMARK |
| BOT, BTM | BOTTOM |
| CCP | CONCRETE CULVERT PIPE |
| CI | CAST IRON |
| CJ | CONSTRUCTION JOINT |
| ℄ | CENTER LINE |
| CL | CLASS |
| CMU | CONCRETE MASONRY UNIT |
| CONC | CONCRETE |
| CONN | CONNECTION |
| CONT | CONTINUOUS |
| CP | CONTROL POINT |
| DIA | DIAMETER |
| DI | DUCTILE IRON |
| EA | EACH |
| EF | EACH FACE |
| EFF | EFFLUENT |
| ELEC | ELECTRICAL |
| EL | ELEVATION |
| EQ | EQUAL |
| EW | EACH WAY |
| EX | EXISTING |
| EXP | EXPANSION |
| FFE | FINISH FLOOR ELEVATION |
| FH | FIRE HYDRANT |
| FIN GR | FINISH GRADE |
| FL | FLOW LINE |
| FLG | FLANGED |
| FT | FOOT |
| FTG | FOOTING |
| GL | GAS LINE |
| GR | GRADE |
| GRVL | GRAVEL |
| GV | GATE VALVE |
| H,HGT,HT | HEIGHT |
| HORIZ | HORIZONTAL |
| HWY | HIGHWAY |
| ID | INSIDE DIAMETER |
| IN | INCHES |
| INF | INFLUENT |
| INV | INVERT |
| JT | JOINT |
| LEN | LENGTH |
| LG | LONG |
| LOC | LOCATION |
| LT | LEFT |
| MANUF | MANUFACTURER |
| MAX | MAXIMUM |
| MGD | MILLION GALLONS PER DAY |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MJ | MECHANICAL JOINT |
| N | NORTH |
| NIC | NOT IN CONTRACT |
| NO.# | NUMBER |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| PE | PLAIN END |
| PI | POINT OF INTERSECTION |
| PL | PLATE |
| PLS | PLACES |
| PO | PUSH ON |
| PP | POWER POLE |
| PSI | POUNDS PER SQUARE INCH |
| PVC | POLYVINYL CHLORIDE |
| R,RAD | RADIUS |
| RCP | REINFORCED CONC PIPE |
| RED | REDUCER |
| REINF | REINFORCING |
| REQD | REQUIRED |
| RFGs | RESTRAINING FOLLOWER GLANDS |
| RJ | RESTRAINED JOINT |
| ROW, R/W | RIGHT-OF-WAY |
| RS | RESILIENT SEAT |
| RT | RIGHT |
| S | SOUTH |
| SCH | SCHEDULE |
| SECT | SECTION |
| SF | SQUARE FEET |
| SHT | SHEET |
| SPECS | SPECIFICATIONS |
| SQ | SQUARE |
| SS | STAINLESS STEEL |
| STA | STATION |
| STD | STANDARD |
| T&B | TOP AND BOTTOM |
| TBM | TEMPORARY BENCHMARK |
| TCE | TEMP CONSTRUCTION EASEMENT |
| TEMP | TEMPORARY |
| THK | THICKNESS |
| TOC | TOP OF CURB |
| TYP | TYPICAL |
| V | VALVE, VOLTS |
| VERT | VERTICAL |
| W | WEST, WIDTH, WATER |
| W/ | WITH |
| W/O | WITHOUT |
| WL | WATER LINE |
| WS | WATERSTOP |
| WWF | WELDED WIRE FABRIC |
| WWTP | WASTEWATER TREATMENT PLANT |
| X | BY |

# LEGEND

- PROPOSED FACILITIES, LINES, ETC
- EXISTING FACILITIES, LINES, ETC
- S — SANITARY SEWER
- FM — SEWER FORCE MAIN
- W — WATER MAIN
- GAS — GAS MAIN
- FO — BURIED FIBER OPTIC CABLE
- OE — OVERHEAD ELECTRIC
- BE — BURIED ELECTRICAL
- STORM SEWER
- GRAVEL ROAD OR DRIVE
- RAILROAD
- X — FENCE
- WATER EDGE
- TREE CANOPY DRIP LINE
- TREE LINE
- TREE OR SHRUB
- FIRE HYDRANT
- WV — WATER VALVE
- SV — SEWER VALVE
- W — WATER METER
- SECTION MARK
- SECTION NUMBER / SHEET NUMBER
- DETAIL NUMBER / SHEET NUMBER
- NORTH ARROW
- A — AIR RELIEF VALVE
- S — SEWER MANHOLE
- CATCH BASIN
- SIGN
- RR — RAILROAD CROSSING
- MAILBOX
- TELEPHONE PEDESTAL
- GV — GAS VALVE
- STORM SEWER INLET
- BENCH MARK
- B — BORE
- UTILITY POLE
- STATION MARK
- GUIDE WIRE ANCHOR
- CONCRETE WING WALL
- PROPERTY PIN
- MONUMENT
- G — GAS REGULATOR
- CAP EXISTING LINE
- LIGHT POLE
- DEMOLISH OR REMOVE
- EXISTING ROADS & SIDEWALKS
- FUTURE ROADS & SIDEWALKS

# ALDOT GENERAL NOTES FOR UTILITY PERMITS

1. THE UTILITY AGREES TO ABIDE BY AND FOLLOW THE GUIDELINES SET FORTH IN THE ALABAMA HANDBOOK FOR EROSION CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES IN URBAN AREAS.
2. SOIL DISTURBANCE FOR THE JOB WILL BE LESS THAN 1 ACRE, BEST MANAGEMENT PRACTICES WILL BE FOLLOWED.
3. THE CONTRACTOR SHALL CLOSE THE LANE ADJACENT TO THE WORK AREA ANYTIME WORK OUTSIDE THE EXISTING TRAVEL LANES ENCROACHES WITHIN 2 FEET OF THE EXISTING EDGE OF PAVEMENT. LANE CLOSURE SHALL BE OFF PEAK HOURS FROM 9:30AM TO 3:30 PM.
4. ALL METERS ARE TO BE INSTALLED OFF OF ALDOT RIGHT-OF WAY.
5. ALL MANHOLES, VALVE BOXES, AND HAND HOLES SHOULD BE FLUSH WITH EXISTING GROUND.
6. CONTACT DISTRICT ADMINISTRATOR 48 HOURS PRIOR TO BEGINNING WORK ON ALDOT RIGHT-OF-WAY.
7. THE PERMIT APPLICANT OR ENGINEER OF RECORD SHALL WRITE A LETTER REQUESTING TO MEET WITH THE DISTRICT ADMINISTRATOR UPON COMPLETION OF THE PERMITTED WORK TO EVALUATE THE PUNCH LIST FOR COMPLETION OF PROJECT.
8. THE BOND ASSOCIATED WITH THE PERMIT WILL BE GOOD FOR ONE FULL YEAR AFTER THE WORK HAS BEEN INSPECTED AND ACCEPTED BY THE DEPARTMENT.
9. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION. (IF PROJECT NECESSITATES LANE CLOSURE, LANE CLOSURE MUST BE MADE PART OF THE PERMIT.)
10. ONSITE REPRESENTATIVE & CONTACT INFORMATION: MARK BOLDEN 256-508-7603
11. ONSITE REPRESENTATIVES WILL HAVE ON HAND, AT ALL TIMES: (1) APPROVED PERMIT AND PLANS STAMPED BY THE REGION ENGINEER, (2) TRAFFIC CONTROL PLANS, (3) EROSION CONTROL PLANS
12. ALL DISTURBED AREAS WILL BE RESODDED OR SEEDED IN ACCORDANCE WITH THE LATEST ALDOT SPECIFICATIONS FOR GRASSING OR AS DIRECTED BY THE ALDOT DISTRICT ADMINISTRATOR.
13. ALL WORK ON THE ROW WILL BE IN CONFORMANCE WITH THE LATEST EDITION OF ALDOT STANDARD SPECIFICATIONS.
14. A BEST MANAGEMENT PLAN SHALL AT MINIMUM RETURN ALL EXPOSED AREAS TO ORIGINAL OR BETTER CONDITION WITH A GOOD STAND OF GRASS AND/OR SOD. SILT FENCE AND ANY OTHER EROSION CONTROL ITEMS NEEDED SHALL BE USED TO PREVENT EROSION. (NO HAYBALES ARE ALLOWED IN ROW)
15. ALL TREES OVER 4" DBH SHALL NOT BE CUT/REMOVED WITHOUT WRITTEN PERMISSION FROM ALDOT.
16. ABSOLUTELY NO BORE PITS SHALL BE ALLOWED TO BE UNFILLED AND/OR UNCOVERED OVERNIGHT UNLESS PROTECTED. (BORE PITS HAVE A MAXIMUM OF 72 HOURS TO BE OPEN BEFORE FILLED.)
17. UPON COMPLETION & ANY TIME THEREAFTER, ALDOT RETAINS THE RIGHT TO REQUEST AN AS-BUILT PLAN OF ANY PERMITTED WORK IN SAID DEPARTMENT'S RIGHTS-OF-WAY (ROW).
18. WARNING: DO NOT DISTURB SURVEY MARKERS LOCATED ON ALDOT RIGHT-OF-WAY. ANY PROPERTY MARKERS DISTURBED DURING CONSTRUCTION SHALL BE RE-ESTABLISHED BY AN ALABAMA LICENSED PROFESSIONAL LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
19. WATER LINES WILL CONFORM TO THE CURRENTLY APPLICABLE STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION.
20. PRESSURE PIPE LINES WILL CONFORM TO THE CURRENTLY APPLICABLE SECTIONS OF AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
21. AS REQUIRED BY ALABAMA ACT 94-487: CALL TWO WORKING DAYS BEFORE EXCAVATION 1-800-292-8525, ALABAMA LINE LOCATION CENTER, INC.
22. ALL EXISTING UTILITY FACILITIES IN THE PROPOSED WORK AREA SHALL BE PHYSICALLY LOCATED BOTH HORIZONTALLY AND VERTICALLY.
    A. THE UTILITY FACILITIES IN THE AREA OF WORK ARE REPRESENTED TO THE BEST OF MY KNOWLEDGE, ACCORDING TO LOCATES PROVIDED BY 811 AND INDIVIDUAL DUE DILIGENCE.
23. ANY ORNAMENTAL VEGETATIVE LANDSCAPING (SHRUBS, FLOWERS, ORNAMENTAL GRASS, ETC.) DISTURBED DURING CONSTRUCTION SHALL BE REPLACED, TRANSPLANTED OR SODDED BY THE APPLICANT AS DIRECTED BY THE ALABAMA DEPARTMENT OF TRANSPORTATION DISTRICT ADMINISTRATOR.
24. ALL FILL MATERIAL OR ONSITE DEBRIS DEPOSITED IN THE RIGHT OF WAY SHALL BE REMOVED PRIOR TO ISSUANCE OF FINAL ACCEPTANCE TO BEGIN THE ONE YEAR MAINTENANCE PERIOD OF THE PERMIT CONTRACT.
25. THE APPLICANT SHALL BE RESPONSIBLE FOR ANY SOLID WASTE (I.E., WOOD, STUMPS, ETC.) TO BE DISPOSED OF AND MUST BE IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM).
26. PROPERTY OBSTRUCTIONS WHICH ARE TO REMAIN IN PLACE, SUCH AS HISTORICAL STRUCTURES, TREES, DRAINS, WATER OR GAS PIPES, POLES, WALL, ETC., ARE NOT TO BE DISTURBED UNLESS NOTED AND APPROVED BY SHPO, ALDOT, ADEM, EPA, ETC.
27. THE APPLICANT IS RESPONSIBLE TO SEE THAT STREETS ARE CLEANED IMMEDIATELY AFTER CONCRETE OR OTHER DELIVERY TRUCKS LEAVE THE SITE. MUD AND DEBRIS ARE TO BE KEPT OFF STREETS, AND OUT OF INLETS, DITCHES, ETC.
28. FUEL TANKS SHALL NOT BE STORED ON THE RIGHT-OF-WAY OVERNIGHT. VEHICLES TRANSPORTING FUEL, CHEMICALS, FERTILIZERS, ETC. ONTO RIGHT-OF-WAY SHALL NOT BE LEFT UNATTENDED
29. THE APPLICANT OR ENGINEER OF RECORD SHALL PROMPTLY NOTIFY ALDOT OF ANY PERCEIVED CONFLICTS, AMBIGUOUS ITEMS OR DEFICIENCIES IN THE PLANS, SPECIFICATIONS, GENERAL NOTES OR RELATED CONTRACT DOCUMENTS.
30. FOR WORK WITHIN INTERSTATE ROW, ALL INGRESS AND EGRESS TO WORKSITE SHALL BE FROM APPLICANT'S PROPERTY. NO ACCESS SHALL BE GAINED FROM THE INTERSTATE ROW. EQUIPMENT AND MATERIALS SHALL NOT BE STORED ON INTERSTATE ROW.
31. MILEPOST 8.719 SPEED LIMIT 70 MPH (I-565).
32. 36" MINIMUM COVER OVER UTILITIES BE MAINTAINED UPON COMPLETION OF WORK.
33. THE LEGAL PERMIT APPLICANT IS HELD RESPONSIBLE AND LIABLE FOR ALL DAMAGES, ACTIONS, OR RESPONSIBILITIES OF THEIR APPOINTED CONTRACTORS AND APPOINTEES.

# VICINITY MAP


NOT TO SCALE
70 MPH SPEED LIMIT

ENGINEERS OF THE SOUTH

ALABAMA LICENSED No. 32815 PROFESSIONAL ENGINEER CRAIG SWINNEY
6-25-2020

REVISIONS

| NO | DATE | DESCRIPTION | |
|---|---|---|---|
| | | | FOR REVIEW AND COMMENT ■ |
| | | | AS-BID ☐ |
| | | | CONSTRUCTION REVISIONS ☐ |
| | | | AS-BUILT ☐ |

MADISON UTILITIES
MADISON, AL

WESTERN INTERCEPTOR
FROM MH-58 TO MH-97

LEGEND, NOTES, VICINITY MAP, & DETAILS

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO: MU-1940
DATE: JUNE 2020
DESIGNED BY: CDS
DRAWN BY: JFL
DWG: COVER SHEET
SHEET NUMBER 1

NOTE: ALL DISTURBED AREAS SHALL BE RESODDED OR SEEDED IN ACCORDANCE WITH THE LATEST ALDOT SPECIFICATIONS FOR GRASSING OR AS DIRECTED BY THE DEPARTMENT OF TRANSPORTATION'S DISTRICT ADMINISTRATOR.

BRADFORD CREEK

PROPOSED 42" DI GRAVITY SEWER INSTALLED BY TRENCH AT 36" MIN DEPTH ENTERS ALDOT ROW AT MILE POST 8.719

105+00

105+50

TO DECATUR 3798' TO MILEPOST 8

FUTURE MH-34 PER ALDOT SPECIAL DRAWING # MH-621-2 INDEX # 62186

101'-0"

15'-7"

67'-0"

27'-1"

APPROXIMATE LOCATION OF GAS LINE

EX MH-96
(TO BE REMOVED)
TOP EL = 610.86'
30" DI (S) INV EL = 590.37'
30" DI (E) INV EL = 590.40'

106+00

ABANDONED MH

GAS

14" HP STEEL GAS (FROM OLD PLANS)

ROW

106+50

BRADFORD CREEK BRIDGE

BRADFORD CREEK BRIDGE

B-120

107+00

CHAIN LINK D/A FENCE

GUARD RAIL

GUARD RAIL

92'-2"

PROPERTY LINE

END OF PROPOSED 42" DI GRAVITY SEWER AT MILE POST 8.772

90'-7"

69'-5"

75'-6"

FUTURE WATER BY PERMIT NO. 1-2-10582

107+50

TO HUNTSVILLE 1180' TO MILEPOST 9

FUTURE 42" DI WATER

EX 30" DI GRAVITY SEWER TO BE UPGRADED TO 42" BY PERMIT NO. 1-2-10583

25'-0"

7'-0"

74'-6"

14'-1"

76'-5"

69'-2"

TBM - A
1/2" REBAR
EL = 620.26'

80'-6"

EX MH-97
(TO BE REMOVED)
TOP EL = 613.11'
30" DI (N) INV EL = 591.96'
12" PVC (S) INV EL = 593.39'
30" DI (W) INV EL = 591.59'

FUTURE MH-1 PER ALDOT SPECIAL DRAWING # MH-621-2 INDEX # 62186
**PER PERMIT NO. 1-2-10583**

145'-0"

38'-11"

55'-0"

51'-0"

232'-9"

163'-1"

43'-2"

BILLBOARD

EX MH-6073
TOP EL = 629.47'
8" PVC (E) INV EL = 603.50'
8" PVC (W) INV EL = 603.42'

EXISTING 30" DI GRAVITY SEWER PER PERMIT # 1-2-10583

ROW

INTERSTATE 565
EAST BOUND (SPEED LIMIT 70 MPH)

CABLE GUARD RAIL

INTERSTATE 565
WEST BOUND (SPEED LIMIT 70 MPH)

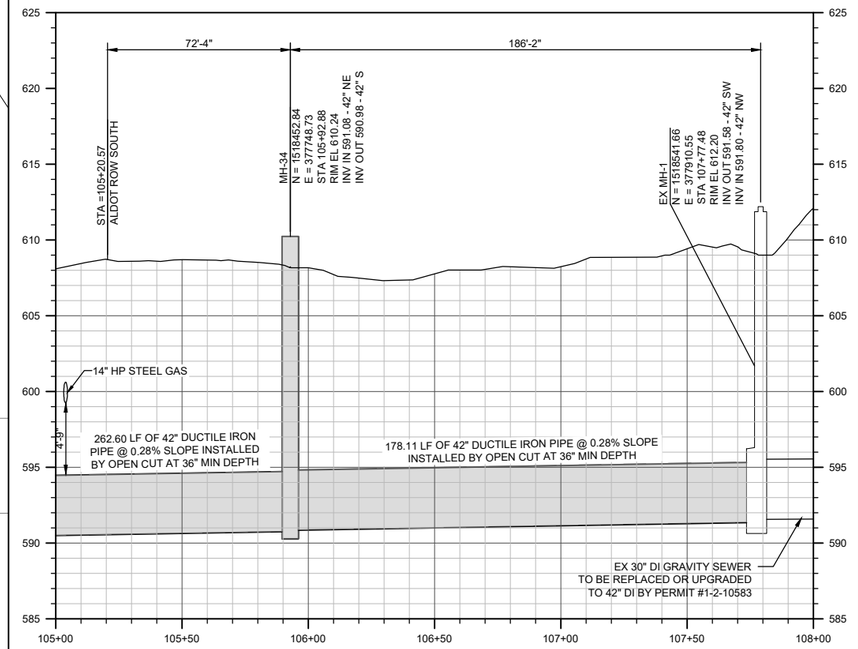
EOP

EOP

EOP

EOP

GRAVITY SEWER PLAN VIEW
SCALE: NOT TO SCALE




GRAVITY SEWER PROFILE VIEW
SCALE: NOT TO SCALE

ENGINEERS OF THE SOUTH

ALABAMA LICENSED No. 32815 PROFESSIONAL ENGINEER CRAIG SWINNEY
6-25-2020

REVISIONS

| NO | DATE | DESCRIPTION |
|---|---|---|
| | | FOR REVIEW AND COMMENT ■ AS-BID ☐ CONSTRUCTION REVISIONS ☐ AS-BUILT |

# MADISON UTILITIES
MADISON, AL

WESTERN INTERCEPTOR
FROM MH-58 TO MH-97

GRAVITY SEWER PLAN & PROFILE

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO: MU-1940
DATE: JUNE 2020
DESIGNED BY: CDS
DRAWN BY: JFL
DWG: ALDOT PERMIT

SHEET NUMBER 2

# APPENDIX C

# US ARMY CORPS OF ENGINEERS PERMIT

**DEPARTMENT OF THE ARMY**
**NASHVILLE DISTRICT, U.S. ARMY CORPS OF ENGINEERS**
**WEST REGULATORY FIELD OFFICE**
**2424 DANVILLE ROAD SW, SUITE-N**
**DECATUR, AL 35063**

March 27, 2020

SUBJECT: File No. LRN-2020-00132; Madison Utilities, Proposed Discharge of Fill Material into Waters of the United States Associated with the Construction of the Western Interceptor Sanitary Sewer and Potable Water Line Crossings of Bradford Creek, Unnamed Tributaries and Adjacent Wetlands, Madison, Madison County, Alabama

Madison Utilities
Attn: Mr. Mark Bland
101 Ray Sanderson Drive
Madison, Alabama 35758

Dear Mr. Bland:

This correspondence is in regard to your pre-construction notification (PCN) to discharge fill material into 245 linear feet of intermittent streams, 151 linear feet of perennial streams, and 1.39 acres of forested and emergent wetlands to construct 14 12" sanitary sewer line crossings and 7 24" potable water line crossings known as the Western Interceptor. The project is located in Bradford Creek, unnamed tributaries of Bradford Creek, and adjacent wetlands in the Madison, Madison County, Alabama (Latitude 34. 67001°N, Longitude 86.75729°W). This project has been assigned File No. LRN-2020-00132. Please refer to this number in any future correspondence.

The individual utility line crossings proposed in the PCN, are listed below:

Table 1: Crossing Locations and Proposed Impacts

| | Latitude | Longitude | Aquatic Resource | Impact Type | Authority | Impacts Wetland-Acre (ac) / Stream- Linear foot (lf) |
|---|---|---|---|---|---|---|
| **Crossing #1** | 34.65635 | -86.75454 | Stream-1 | Stream - Intermittent | 404 | 150 lf<br>0.068 ac fill |
| **Crossing #2** | 34.65768 | -86.75570 | Stream-2 | Stream – Intermittent | 404 | 50 lf<br>0.022 ac fill |
| **Crossing #3** | 34.65807 | -86.75606 | Stream-3 | Stream - Intermittent | 404 | 21 lf<br>0.009 ac fill |
| **Crossing #4** | 34.65899 | -86.75718 | Stream-4 | Stream – Perennial | 404 | 13 lf<br>0.005 ac fill |
| **Crossing #5** | 34.66129 | -86.75702 | Stream-5 | Stream - Perennial | 404 | 54 lf<br>0.024 ac fill |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Crossing #6** | 34.66337 | -86.75642 | Stream-6 | Stream – Perennial | 404 | 6 lf<br>0.002 ac fill |
| **Crossing #7** | 34.66690 | -86.75786 | Stream-7 | Stream – Intermittent | 404 | 8.5 lf<br>0.003 ac fill |
| **Crossing #8** | 34.67119 | -86.75918 | Stream-8 | Stream – Intermittent | 404 | 2.5 lf<br>0.002 ac fill |
| **Crossing #9** | 34.67225 | -86.75872 | Stream-9 | Stream – Intermittent | 404 | 7 lf<br>0.006 ac fill |
| **Crossing #10** | 34.67571 | -86.76042 | Stream-10 | Stream – Intermittent | 404 | 6 lf<br>0.005 ac fill |
| **Crossing #11** | 34.67621 | -86.76201 | Stream-11 | Stream – Perennial | 404 | 66 lf<br>0.06 ac fill |
| **Crossing #12** | 34.68199 | -86.76949 | Wetland-A | Wetland – Forested/ Emergent | 404 | 400 lf<br>0.36 ac fill |
| **Crossing #13** | 34.68480 | -86.77008 | Wetland-B | Wetland – Forested/ Emergent | 404 | 1,122 lf<br>1.03 ac fill |
| **Crossing #14** | 34.68638 | -86.77041 | Stream-12 | Stream – Perennial | 404 | 12 lf<br>0.011 ac fill |

Based on the information you provided, Nationwide Permit (NWP) 12, Utility Line Activities, which became effective March 19, 2017 [82 FR 1860], authorizes your proposal as depicted on the enclosed plans. In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 12, Terms and Conditions*, and the *2017 Nationwide Permit General Conditions*. The work must also comply with the special conditions listed in the enclosed "SPECIAL CONDITIONS FOR PERMIT LRN-2020-00132, MADISON UTILITIES, WESTERN INTERCEPTOR."

This verification is valid until March 18, 2022, unless the NWP authorization is modified, suspended, or revoked prior to that date. Furthermore, if you commence or are under contract to commence this activity before the date of NWP expiration, modification, or revocation, you will have 12 months from the date of expiration, modification or revocation to complete the activity under the present terms and conditions of the NWP. This will apply to all NWPs unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 330.4(e) and 33 CFR 330.5(c) or (d).

This NWP 12 verification does not obviate your responsibility to obtain and abide by all other federal, state and local permits or approvals required. This NWP verification should not be considered as an approval of the design features of any activity authorized or an implication that such construction is considered adequate for the purpose intended. In addition, it does not grant any property rights or exclusive privileges and does not authorize any injury to the property or rights of others. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit* form. Thank you for your cooperation during the permitting process. If you have any questions, please contact Mr. Eric Sinclair at 256-350-5620 or via e-mail william.e.sinclair@usace.army.mil.

Sincerely,

Timothy C. Wilder
Chief, West Branch
Regulatory Division
U.S. Army Corps of Engineers

Enclosures

Enclosure 1 – Special Conditions
Enclosure 2 – NWP 12, Terms and Conditions
Enclosure 3 – 2017 Nationwide Permit General Conditions
Enclosure 4 – Compliance Certification
Enclosure 5 – Water Quality Certification

cc:
Alabama Department of Environmental Management, (fieldmail@adem.state.al.us)
Mr. Andy Miller, Geo-Source, Inc., Florence, AL (amiller@geo-source.com)

US Army Corps
of Engineers ®
Nashville District

**SPECIAL CONDITIONS FOR**

**PERMIT LRN-2020-00132, MADISON UTILITIES, WESTERN INTERCEPTOR**

1. **Federally-Protected Species:** In order to protect the Indiana bat (*Myotis sodalis*) and Northern Long-Eared bat (*Myotis septentrionalis*), the felling of all trees over 3 inches diameter at breast height associated with the construction of the bridge over Limestone Creek adjacent wetlands must occur during the non-active season (October 15 to March 31) in any year this permit is valid.

US Army Corps of Engineers ®
Nashville District

# 2017 Nationwide Permit

82 FR 1860

## 12. Utility Line Activities.

Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

*Utility lines*: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of utility lines, including outfall and intake structures. There must be no change in pre-construction contours of waters of the United States. A ''utility line'' is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and internet, radio, and television communication. The term ''utility line'' does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (*e.g.,* backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

*Utility line substations:* This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

*Foundations for overhead utility line towers, poles, and anchors:* This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

*Access roads:* This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into nontidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads

constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

*Notification*: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met:

(1) The activity involves mechanized land clearing in a forested wetland for the utility line right-of-way;
(2) a section 10 permit is required;
(3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet;
(4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area;
(5) discharges that result in the loss of greater than 1/10- acre of waters of the United States;
(6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or
(7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 32.)

(**Authorities**: Sections 10 and 404)

**Note 1**: Where the utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

**Note 2**: For utility line activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Utility line activities must comply with 33 CFR 330.6(d).

**Note 3**: Utility lines consisting of aerial electric power transmission lines crossing navigable waters of the United States (which are defined at 33 CFR part 329) must comply with the applicable minimum clearances specified in 33 CFR 322.5(i).

**Note 4**: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

**Note 5**: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

**Note 6**: This NWP authorizes utility line maintenance and repair activities that do not qualify for the Clean Water Act section 404(f) exemption for maintenance of currently serviceable fills or fill structures.

**Note 7**: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

**Note 8**: For NWP 12 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require preconstruction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, ‘‘District Engineer’s Decision.’’ The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

US Army Corps of Engineers ®
Nashville District

# 2017 Nationwide Permit General Conditions

The following General Conditions must be followed in order for any authorization by NWP to be valid:

**National General Conditions:**

**1. Navigation**. (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

**2. Aquatic Life Movements**. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

**3. Spawning Areas**. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

**4. Migratory Bird Breeding Areas**. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

**5. Shellfish Beds**. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

**6. Suitable Material**. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

**7. Water Supply Intakes**. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

**8. Adverse Effects From Impoundments**. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

**9. Management of Water Flows**. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

**10. Fills Within 100-Year Floodplains**. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

**11. Equipment**. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

**12. Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

**13. Removal of Temporary Fills**. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

**14. Proper Maintenance**. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

**15. Single and Complete Project**. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

**16. Wild and Scenic Rivers**. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. (b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction

notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status. (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/ .

**17. Tribal Rights**. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

**18. Endangered Species**. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs. (e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. (f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required. (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide Web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

**19. Migratory Birds and Bald and Golden Eagles**. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

**20. Historic Properties**. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of

the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. (d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

**21. Discovery of Previously Unknown Remains and Artifacts**. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

**22. Designated Critical Resource Waters**. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment. (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

**23. Mitigation**. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal: (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal. (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)). (e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses. (f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332. (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation. (2) The amount of

compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)). (3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation. (4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). (5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided. (6)Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)). (g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs. (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management. (i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

**24. Safety of Impoundment Structures**. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

**25. Water Quality**. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

**26. Coastal Zone Management**. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

**27. Regional and Case-By-Case Conditions**. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

**28. Use of Multiple Nationwide Permits**. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

**29. Transfer of Nationwide Permit Verifications**. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____

(Transferee)

_____

(Date)

**30. Compliance Certification**. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include: (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions; (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and (c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

**31. Activities Affecting Structures or Works Built by the United States**. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

**32. Pre-Construction Notification**. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either: (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2). (b)Contents of Pre-Construction Notification: The PCN must be in writing and include the following information: (1) Name, address and telephone numbers of the prospective permittee; (2) Location of the proposed activity; (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity; (4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans); (5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate; (6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan. (7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act; (8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act; (9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and (10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project. (c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and

procedures for electronic submittals. (d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal. (2) Agency coordination is required for: (i) All NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes. (3) When agency coordination is required, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5. (4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

**Further Information**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

US Army Corps
of Engineers ®
Nashville District

# COMPLIANCE CERTIFICATION

## YOU ARE REQUIRED TO SUBMIT THIS SIGNED CERTIFICATION REGARDING THE COMPLETED ACTIVITY AND ANY REQUIRED MITIGATION

I hereby certify that the work authorized by **Permit No. LRN-2020-00132,** located at Bradford Creek, Tennessee River Mile 310.7, Right Bank, Madison County, Alabama and any required mitigation was done in accordance with the Corps authorization, including any general, regional, or special conditions.

_____
Permittee Signature

_____
Date

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative.

Submit this signed certification to the address below:

☐ U.S Army Corps of Engineers
Regulatory Division
3701 Bell Road
Nashville, TN 37214-2660

☐ East Regulatory Field Office
501 Adesa Parkway
Suite 250
Lenoir City, TN 37771

☒ Western Regulatory Field Office
2424 Danville Road, SW
Suite N
Decatur, AL 35603

**Lance R. LeFleur**
Director

**Robert J. Bentley**
Governor

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

LRN-2020-00132
Enclosure 5

January 30, 2017

Colonel Jim DeLapp
Commander, Mobile District
U.S. Army Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

RE: Clean Water Act (CWA) Section 401 Water Quality Certification (WQC), U.S. Army Corps of Engineers (COE) Proposed 2017 Reissuance of Alabama Nationwide Permits (ALNWPs) For Activities Within the State of Alabama With Minimal Individual And Cumulative Adverse Impacts On The Aquatic Environment, January 6, 2017 CESAM-RD, SAM-2016-00407-MBM

Dear Colonel DeLapp:

This office has completed a review of the above-referenced notice and all associated materials submitted related to the proposed ALNWPs. Any comments made during the public notice period have also been forwarded to us for review.

1. Aids to Navigation
2. Structures in Artificial Canals
3. Maintenance
4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
5. Scientific Measurement Devices
6. Survey Activities
7. Outfall Structures and Associated Intake Structures
8. Oil and Gas Structures on the Outer Continental Shelf
9. Structures in Fleeting and Anchorage Areas
10. Mooring Buoys
11. Temporary Recreational Structures
12. Utility Line Activities
13. Bank Stabilization
14. Linear Transportation Projects
15. U.S. Coast Guard Approved Bridges
16. Return Water From Upland Contained Disposal Areas
17. Hydropower Projects
18. Minor Discharges
19. Minor Dredging
20. Response Operations for Oil or Hazardous Substances
21. Surface Coal Mining Activities
22. Removal of Vessels
23. Approved Categorical Exclusions
24. Indian Tribe or State Administered Section 404 Programs
25. Structural Discharges
26. [*Reserved*]
27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities

**Birmingham Branch**
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

**Decatur Branch**
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

**Mobile Branch**
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

**Mobile-Coastal**
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

28. Modifications of Existing Marinas
29. Residential Developments
30. Moist Soil Management for Wildlife
31. Maintenance of Existing Flood Control Facilities
32. Completed Enforcement Actions
33. Temporary Construction, Access, and Dewatering
34. Cranberry Production Activities
35. Maintenance Dredging of Existing Basins
36. Boat Ramps
37. Emergency Watershed Protection and Rehabilitation
38. Cleanup of Hazardous and Toxic Waste
39. Commercial and Institutional Developments
40. Agricultural Activities
41. Reshaping Existing Drainage Ditches
42. Recreational Facilities
43. Stormwater Management Facilities
44. Mining Activities
45. Repair of Uplands Damaged by Discrete Events
46. Discharges in Ditches
47. [*Reserved*]
48. Commercial Shellfish Aquaculture Activities
49. Coal Remining Activities
50. Underground Coal Mining Activities
51. Land-Based Renewable Energy Generation Facilities
52. Water-Based Renewable Energy Generation Pilot Projects
53. Removal of Low-Head Dams
54. Living Shorelines

Because action pertinent to WQC is required by Section 401(a)(1) of the CWA, 33 U.S.C. Section 1251, et seq., we hereby issue certification until **March 18, 2022**, that there is reasonable assurance that the discharge resulting from the proposed activities as submitted will not violate applicable water quality standards established under Section 303 of the CWA and Title 22, Section 22-22-9(g), Code of Alabama, 1975, provided the applicant acts in accordance with the following conditions as specified. We further certify that there are no applicable effluent limitations under Sections 301 and 302 nor applicable standards under Sections 306 and 307 of the CWA in regard to the activities specified.

To minimize adverse impacts to State waters, by copy of this letter we are requesting the Mobile District Corps of Engineers to incorporate the following as special conditions appropriate to each activity in Alabama authorized by the COE NWPs:

1. During project implementation, the applicant shall ensure compliance with applicable requirements of ADEM. Admin. Code Chapter 335-6-6 [National Pollutant Discharge Elimination System (NPDES)], Chapter 335-6-10 (Water Quality Criteria), and Chapter 335-6-11 (Water Use Classifications for Interstate and Intrastate Waters).

2. ADEM permit coverage may be required prior to commencing and/or continuing certain activities/operations relating to or resulting from the project. If an applicant has any questions regarding ADEM regulated activity or the need for NPDES permit coverage, the applicant can contact ADEM's Water Division at (334) 271-7823. If an applicant has any questions regarding ADEM regulated activity or the need for air permit coverage, the applicant can contact ADEM's Air

Division at (334) 271-7869. If the applicant has any questions regarding ADEM regulated activity or the need for hazardous, toxic, and/or solid waste permit coverage, the applicant can contact ADEM's Land Division at (334) 271-7730.

3. Upon the loss or failure of any treatment facility, Best Management Practice (BMP), or other control, the applicant shall, where necessary to maintain compliance with this certification, suspend, cease, reduce or otherwise control work/activity and all discharges until effective treatment is restored. It shall not be a defense for the applicant in a compliance action that it would have been necessary to halt or reduce work or other activities in order to maintain compliance with the conditions of this certification.

4. The applicant shall retain records adequate to document activities authorized by this certification for a period of at least three years after completion of work/activity authorized by the certification. Upon written request, the applicant shall provide ADEM with a copy of any record/information required to be retained by this paragraph.

5. The applicant shall conduct or have conducted, at a minimum, weekly comprehensive site inspections until completion of the proposed activity to ensure that effective BMPs are properly designed, implemented, and regularly maintained (i.e. repair, replace, add to, improve, implement more effective practice, etc.) to prevent/minimize to the maximum extent practicable discharges of pollutants in order to provide for the protection of water quality.

6. The applicant shall implement a project-specific or a detailed general BMP Plan prepared by an ADEM recognized qualified credentialed professional (QCP) applicable to and commensurate with activities of the type proposed. Effective BMPs shall be implemented and continually maintained for the prevention and control of turbidity, sediment, and other sources of pollutants, including measures to ensure permanent revegetation or cover of all disturbed areas, during and after project implementation.

7. The applicant shall implement a Spill Prevention Control and Countermeasures (SPCC) Plan for all temporary and permanent onsite fuel or chemical storage tanks or facilities consistent with the requirements of ADEM Admin. Code R. 335-6-6-.12(r), Section 311 of the Federal Water Pollution Control Act, and 40 CFR Part 112. The applicant shall maintain onsite or have readily available sufficient oil & grease absorbing material and flotation booms to contain and clean-up fuel or chemical spills and leaks. The applicant shall immediately notify ADEM after becoming aware of a significant visible oil sheen in the vicinity of the proposed activity. In the event of a spill with the potential to impact groundwater or other waters of the State, the applicant should immediately call the National Response Center at 1-800-424-8802 and the Alabama Emergency Management Agency at 1-800-843-0699. The caller should be prepared to report the name, address and telephone number of person reporting spill, the exact location of the spill, the company name and location, the material spilled, the estimated quantity, the source of spill, the cause of the spill, the nearest downstream water with the potential to receive the spill, and the actions taken for containment and cleanup.

8. Additional, effective BMPs shall be fully implemented and maintained on a daily basis as needed to prevent to the maximum extent possible potential discharges of pollutants from activities authorized by this certification, directly to or to a tributary or other stream segment, that have the potential to impact a State water currently considered impaired [waterbody is identified on the Alabama 303(d) list, a total maximum daily load (TMDL) has been finalized for the waterbody, and/or the waterbody is otherwise considered a Tier 1 water pursuant to ADEM Admin. Code Ch. 335-6-10]. The applicant

shall inspect all BMPs as often as is necessary (daily if needed) for effectiveness, need for maintenance, and the need to implement additional, effective BMPs. Additional effective BMPs shall immediately be implemented as needed to ensure full compliance with ADEM requirements and the protection of water quality in the impaired waterbody.

9. All construction and worker debris (e.g. trash, garbage, etc.) must be immediately removed and disposed in an approved manner. If acceptable offsite options are unavailable, effective onsite provisions for collection and control of onsite worker toilet wastes or gray waste waters (i.e. port-o-let, shower washdown, etc.) must be implemented and maintained. Soil contaminated by paint or chemical spills, oil spills, etc. must be immediately cleaned up or be removed and disposed in an approved manner. Also, the applicant shall manage and dispose of any trash, debris, and solid waste according to applicable state and federal requirements.

10. All materials used as fill, or materials used for construction of structures in a waterbody, must be non-toxic, non-leaching, non-acid forming, and free of solid waste or other debris. This requirement does not preclude the use of construction materials authorized by the COE that are typically utilized in marine or other aquatic applications.

11. The applicant shall implement appropriate measures to minimize the potential for a decrease of instream dissolved oxygen concentrations as a result of project implementation. In addition, the applicant shall ensure that the activities authorized by this certification do not significantly contribute to or cause a violation of applicable water quality standards for instream dissolved oxygen.

12. The applicant shall implement appropriate, effective BMPs, including installation of floating turbidity screens as necessary, to minimize downstream turbidity to the maximum extent practicable. The applicant shall visually monitor or measure background turbidity. The applicant must suspend operations should turbidity resulting from project implementation exceed background turbidity by more than 50 NTUs. Operations may resume when the turbidity decreases to within acceptable levels.

13. The applicant shall evaluate, characterize, and as necessary, conduct regular analysis of any material proposed to be dredged/removed/disturbed in order to ensure that potential pollutants are not present in concentrations that could cause or contribute to a violation of applicable water quality standards. Information regarding the evaluation, characterization, or detailed results of any analyses shall be made available to ADEM upon request.

14. If upland disposal areas are utilized, the applicant shall be responsible for the condition of the disposal area, including the structural integrity of any embankments, until the disposal area is permanently reclaimed or adequately stabilized, to ensure that sediment and/or turbidity in the return water and/or stormwater runoff will not cause substantial visible contrast with the receiving waters, or result in an increase of 50 NTUs above background turbidity levels in the receiving waters.

15. For proposed activities associated with new or updated docks, marinas, multiple boat slips, floating docks, large or multiple piers, etc. or that increase the number of berthing areas, the applicant shall ensure that these facilities are equipped with appurtenances (i.e. trash receptacles, receptacles for fish offal and carcasses, SPCC for fueling facilities, and a sewage pump out system where appropriate) as needed to protect water quality.

16. The applicant is encouraged to consider additional pollution prevention practices, low impact development (LID), and other alternatives to assist in complying with applicable regulatory

requirements and possible reduction/elimination of pollutant discharges. LID is an approach to land development or re-development that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. There are many practices that have been used to implement these sustainable ideas such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed.

17. The applicant is encouraged to consider and implement a site design plan/strategy for post-construction hydrology to mimic pre-construction hydrology to the extent feasible, and for post-construction stormwater runoff peak flows and total stormwater volume to minimize potential downstream channel and stream bank erosion.

18. In recognition that projects are site specific in nature and conditions can change during project implementation, ADEM reserves the right to require the submission of additional information or require additional management measures to be implemented, as necessary on a case-by-case basis, in order to ensure the protection of water quality. Liability and responsibility for compliance with this certification are not delegable by contract or otherwise. The applicant shall ensure that any agent, contractor, subcontractor, or other person employed by, under contract, or paid a salary by the applicant complies with this certification. Any violations resulting from the actions of such person may be considered violations of this certification.

19. Issuance of a certification by ADEM neither precludes nor negates an operator/owner's responsibility or liability to apply for, obtain, or comply with other ADEM, federal, state, or local government permits, certifications, licenses, or other approvals. This certification does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of Federal, State, or local laws or regulations, and in no way purports to vest in the applicant title to lands now owned by the State of Alabama, nor shall it be construed as acquiescence by the State of Alabama of lands owned by the State of Alabama that may be in the applicant's possession.

Should you have any questions on this or related matters, please do not hesitate to contact Richard Hulcher, Office of Field Services, by email at rfh@adem.alabama.gov or by phone at 334-394-4311.

Sincerely,

Anthony Scott Hughes, Chief
Field Operations Division

File: WQ401
c: Nashville District COE
EPA Region IV

# APPENDIX D

# SUMMARY OF SOIL SAMPLES

| Bore | Depth | Description | Color | Chert | Consistency | Class | N-Value | Water | Refusal |
|---|---|---|---|---|---|---|---|---|---|
| B-101 | 8.5-10’ | Sandy Lean Clay | Yellowish Red | 10% | Very Stiff | CL | 29 | 6’ | No |
| | 13.5-15’ | Sandy Silt | Yellowish Brown | | Firm | ML | 6 | | |
| | 18.5’-20’ | Sandy Silt | Yellowish Brown | | Stiff | ML | 14 | | |
| B-102 | 8.5-10’ | Fat Clay | Yellowish Brown/Gray | | Stiff | CH | 10 | 6’ | No |
| | 13.5-15’ | Fat Clay | Yellowish Brown/Gray | | Firm | CH | 5 | | |
| | 18.5’-20’ | Gravelly Lean Clay | Yellowish Brown | 40% | Firm | CL | 6 | | |
| B-103 | 8.5-10’ | Sandy Fat Clay | Reddish Brown | 20% | Very Stiff | CH | 17 | - | No |
| | 13.5-15’ | Sandy Fat Clay | Reddish Brown | 10% | Very Stiff | CH | 6 | | |
| | 18.5’-20’ | Sandy Fat Clay | Reddish Brown | 10% | Very Stiff | CH | 5 | | |
| B-104 | 8.5-10’ | Lean Clay | Brown | | Soft | CL | 3 | 9’ | 17’ |
| | 13.5-15’ | Lean Clay | Red | 25% | Very Stiff | CL | 19 | | |
| B-105 | 8.5-10’ | Sandy Lean Clay | Yellowish Red | | Very Stiff | CL | 17 | 8’ | No |
| | 13.5-15’ | Lean Clay | Yellowish Red/Tan | | Stiff | CL | 9 | | |
| | 18.5’-20’ | Lean Clay | Red | | Firm | CL-CH | 6 | | |
| B-107 | 8.5-10’ | Lean Clay with Chert | Red | 30% | Hard | CL | 50+ | 7’ | 12’ |
| B-108 | 8.5-10’ | Fat Clay | Yellowish Brown/Gray | | Stiff | CH | 12 | 2’ | No |
| | 13.5-15’ | Fat Clay | Yellowish Brown | 20% | Very Stiff | CH | 23 | | |
| | 18.5’-20’ | Fat Clay | Yellowish Brown | 20% | Very Stiff | CH | 9 | | |

| Bore | Depth | Description | Color | Chert | Consistency | Class | N-Value | Water | Refusal |
|---|---|---|---|---|---|---|---|---|---|
| B-109 | 8.5-10’ | Fat Clay | Yellowish Brown | | Very Stiff | CH | 23 | 15’ | 18’ |
| | 13.5-15’ | Fat Clay | Dark Reddish Brown | 20% | Stiff | CH | 15 | | |
| | 18.5’-20’ | Fat Clay | Dark Reddish Brown | 20% | Stiff | CH | 50+ | | |
| B-110 | 8.5-10’ | Fat Clay | Brown | 30% | Hard | CH | 43 | 7’ | 18’ |
| B-111 | 8.5-10’ | Lean Clay | Yellowish Brown | 30% | Very Stiff | CL | 17 | 7’ | No |
| | 8.5-10’ | Lean Clay | Yellowish Brown | 30% | Very Stiff | CL | 21 | | |
| | 18.5’-20’ | Lean Clay | Yellowish Brown | 30% | Very Stiff | CL | 10 | | |
| B-112 | 8.5-10’ | Low Elastic Silt | Brown | | Very Soft | ML | 2 | 8’ | 17’ |
| | 13.5-15’ | Low Elastic Silt | Brown | | Very Soft | ML | 2 | | |
| B-113 | 8.5-10’ | Fat Clay | Yellowish Brown | 20% | Very Stiff | CH | 21 | 13’ | 18’ |
| | 13.5-15’ | Fat Clay | Yellowish Brown | 20% | Stiff | CH | 14 | | |
| B-114 | 8.5-10’ | High Elastic Silt | Brown | | Firm | MH | 7 | 8.5’ | 17’ |
| | 13.5-15’ | High Elastic Silt | Brown | 15% | Stiff | ML | 11 | | |
| B-115 | 8.5-10’ | Low Elastic Silt | Yellowish Brown | 30% | Stiff | ML | 14 | 8’ | 18’ |
| | 13.5-15’ | Low Elastic Silt | Yellowish Brown | 30% | Very Stiff | ML | 16 | | |
| B-116 | 8.5-10’ | Lean Clay | Yellowish Brown | 30% | Firm | CL | 7 | 8’ | 18’ |
| | 13.5-15’ | Lean Clay | Yellowish Brown | 30% | Firm | CL | 7 | | |
| B-117 | 8.5-10’ | Low Elastic Silt | Brown | | Firm | ML | 8 | 8.5’ | 23’ |
| | 13.5-15’ | Low Elastic Silt | Yellowish Brown | 30% | Stiff | ML | 9 | | |
| | 18.5’-20’ | Low Elastic Silt | Yellowish Brown | 30% | Hard | ML | 34 | | |

| Bore | Depth | Description | Color | Chert | Consistency | Class | N-Value | Water | Refusal |
|---|---|---|---|---|---|---|---|---|---|
| B-118 | 8.5-10’ | Low Elastic Silt | Brown | | Soft | ML | 3 | 8’ | 17’ |
| | 13.5-15’ | Low Elastic Silt | Brown | | Firm | ML | 8 | | |
| B-119 | 8.5-10’ | Fat Clay | Yellowish Red | | Firm | CH | 8 | 8’ | 19’ |
| | 13.5-15’ | Fat Clay | Yellowish Red | | Firm | CH | 6 | | |
| B-120 | 8.5-10’ | Fat Clay | Yellowish Brown | 10% | Soft | CH | 3 | 8’ | 20’ |
| | 13.5-15’ | Fat Clay | Yellowish Brown | 10% | Firm | CH | 6 | | |
| | 18.5’-20’ | Fat Clay | Yellowish Brown | 10% | Hard | CH | 50+ | | |

# SPECIFICATIONS GROUP

SECTION 01 11 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. General Description.

B. Contractor use of site and premises.

C. Owner occupancy.

D. Licenses and Permits.

E. Protection of Owner, Owner's Agents, and Public.

F. Meetings.

1.02 GENERAL DESCRIPTION

A. Contract Description: Western Interceptor from MH-58 to MH-97

B. See Advertisement for Bids for project description.

C. Work Restrictions:
   1. Except in the case of an emergency, all adjustments to, or shutdowns of, existing systems or piping shall be performed by the Owner's personnel.
   2. See General Conditions, Supplementary Conditions, Plans and Specifications

1.03 CONTRACTOR USE OF SITE AND PREMISES

A. Limit use of site and premises to allow:
   1. Owner occupancy.
   2. Work by others and work by Owner.

B. Construction areas shall be limited to Owner's existing property, easements, right-of-ways, etc. and/or as shown in the Plans unless arranged independently by the Contractor.

C. Utility outages and shutdowns shall be at Owner's convenience.

1.04 OWNER OCCUPANCY

A. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.

B. Schedule the Work to accommodate this requirement.

1.05 LICENSES AND PERMITS

A. The Contractor's attention has been called to the necessity for compliance with all federal, state and local laws or ordinances regarding licenses and permits. Contractor is referred to in the following applicable sections of the Contract Documents: Instructions to Bidders and General Conditions.

B. When applicable, the Contractor is instructed to secure from any local Office(s) of Inspection Services for information relative to Licenses and Permits required for performance of the work in the project specific Municipality or County.

C. The Contractor is reminded that it is mandatory that all licensing requirements be met. Prior to the beginning of any work, including the placement of a construction trailer on or near the project site, all necessary permits must be obtained.

1.06 PROTECTION OF OWNER, OWNER'S AGENTS, AND PUBLIC

A. The Contractor and the superintendent are requested to carefully read the Articles of the General Conditions relating to protection of the Owner, agents of the Owner, workmen, and the public, such as Insurance; Indemnity; Licenses and Permits: Compliance with Laws, Ordinances and Regulations; Safety; Warning Signs and Barricades; Public Convenience; Sanitary Provisions; etc. This request is made to stress the importance of safe prosecution of the work, and does not imply that the Contractor and his Superintendent should not be completely familiar with all Articles of the General Conditions and all other provisions of the Contract Documents.

B. Under the terms and conditions of this Contract, the Engineer shall not be required to act as Safety Engineer or Safety Supervisor since such responsibility remains solely with the Contractor, who, in the prosecution of his work, is bound by the requirements of "Safety and Health Regulations for Construction Occupational Safety and Health Administration, U.S. Government Department of Labor", and of other authorities having jurisdiction. It is recommended that the Contractor seek the advice of the Safety Inspector for his Insurance Carrier in regard to job safety, and that he observe all precautions and safety provisions as outlined in the "Manual of Accident Prevention in Construction", as published by the Associated General Contractors of America, to the extent that such provisions are not inconsistent with applicable laws or regulations.

1.07 MEETINGS

A. Project Meetings
   1. At a minimum, construction period meetings will be conducted at monthly intervals. These meetings shall be attended by the Construction Manager (if applicable), Owner's representative, Engineer, and the Contractors' Project Managers with appropriate staff, subcontractors, or suppliers. Meetings shall include a preconstruction meeting, construction progress meetings and other meeting called by the Construction Manager, Owner, or Engineer in response to developments during the work.

B. Preconstruction Meeting
   1. Prior to start of construction, a conference will be called for the purpose of reviewing the construction program with the Contractors. At this conference, detailed program, sequence of work methods of access to construction site and temporary facilities shall be agreed upon. All interested agencies and utility companies will be invited to discuss their interests and requirements relating to the project. All Contractors and all subcontractor representatives shall attend.

C. Project meetings will include reports on construction progress. Work schedule and sequencing requirements, coordination of building trades, coordination with other Contracts

and public utilities, the status of submittal reviews, the status of information requests, and any general business.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 11 00

SECTION 01 11 20 - PROJECT COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Project coordination by the Project Coordinator and/or Owner's Representative.

B. Construction mobilization.

C. Schedules.

D. Submittals.

E. Coordination drawings.

F. Closeout procedures.

1.02 PROJECT COORDINATOR

A. Project Coordinator: Engineer and/or Owner Representative.

1.03 CONSTRUCTION MOBILIZATION

A. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for access, traffic, and parking facilities.

B. During construction, coordinate use of site and facilities through the Project Coordinator.

C. Comply with Project Coordinator's procedures for intra project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

D. Coordinate with the Project Coordinator for use of temporary utilities and construction facilities.

E. Coordinate field engineering and layout work with the Project Coordinator.

1.04 SCHEDULES

A. Submit preliminary progress schedule in accordance with Section 01 32 00.

B. After review, revise and resubmit schedule to comply with revised Project schedule.

C. During progress of work revise and resubmit with Applications for Payment.

1.05 SUBMITTALS

A. Submit preliminary shop drawings, product data and samples in accordance with Section 01 33 00 for review and compliance with Contract Documents, for field dimensions and clearances, for relation to available space, and for relation to work of separate contracts. Revise and resubmit as required.

B. Submit requests for interpretation of Contract Documents, and obtain clarifications through the Engineer.

C. Deliver closeout submittals for review and preliminary inspection reports, for transmittal to Engineer.

1.06 COORDINATION DRAWINGS

A. Provide information required by Project Coordinator for preparation of coordination drawings.

B. Review drawings prior to submission to ENGINEER.

1.07 CLOSEOUT PROCEDURES

A. Notify Project Coordinator when Work is considered ready for Substantial Completion. Accompany Project Coordinator on inspections as needed to determine items to be listed for completion or correction in Contractor's Notice of Substantial Completion, Lists of Apparent Remaining Work Items, or Punch Lists.

B. Correct and/or complete items of work listed in Contractor's Notice of Substantial Completion, Lists of Apparent Remaining Work Items, or Punch Lists and for access to Owner occupied areas.

C. Notify Project Coordinator when Work is considered finally complete. Accompany Project Coordinator on final review.

D. Correct and/or complete items of Work determined by Engineer's final review.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 11 20

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for payment.

1.02 FORMAT

A. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

B. The Engineers shall prepare pay request from field measurements or estimates and send pay request to the Owner.

1.03 PREPARATION OF APPLICATIONS

A. Present required information in typewritten form.

B. Execute certification by signature of authorized officer on form approved by the Engineer.

C. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.

D. Prepare Application for Final Payment as specified in Section 01 77 00.

1.04 SUBMITTAL PROCEDURES

A. Application for Payment may be submitted by e-mail.

B. Submit an updated construction schedule with each Application for Payment.

C. Payment Period: Submit for work completed following the 25th of each month.

D. Submit with transmittal letter as specified for Submittals in Section 01 33 00.

E. Submit waivers showing that suppliers and sub-contractors have been paid the amount due them from the previous invoice.

F. The first application will be processed after Owner agreement with the construction schedule.

1.05 SUBSTANTIATING DATA

A. When Engineer requires substantiating information, submit data justifying dollar amounts in question.

B. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.06 STORED MATERIALS AND/OR EQUIPMENT

A. All materials and/or equipment to be incorporated in the work and meeting the requirements of the specifications shall be properly stored to ensure the finish, and quality of the materials or equipment. The materials and/or equipment shall be stored as per the manufacturers' recommendations and insured against loss by damage or disappearance of such materials and/or equipment prior to time of use.

B. The materials and/or equipment shall be stored on site or at a facility approved by the Owner. Any agreement for rental of such storage space by the Contractor shall contain provisions that the material and/or equipment stored shall not be subject to a lien for payment of storage.

C. On the first estimate following the estimate the Contractor was paid for stored materials and/or equipment, the Contractor must show evidence in the form of a certified (signed by a representative of the company furnishing the materials and/or equipment) paid invoice that he has paid the supplier for the materials and/or equipment; otherwise the amount of material costs previously paid shall be deducted from the current estimate. The certified paid invoice shall have the name and phone number printed of the person certifying the invoice.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 29 00

SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Format.

B. Content.

C. Revisions to schedules.

D. Submittals.

E. Distribution

1.02 FORMAT

A. Prepare schedules as a horizontal bar chart with separate bar for each major portion of Work or operation, identifying first work day of each week.

B. Scale and Spacing: To provide space for notations and revisions.

C. Sheet Size: Minimum 34 x 22 inches.

1.03 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Identify each item by specification section number.

C. Identify work of separate stages and other logically grouped activities.

D. Provide sub schedules for each stage of Work identified in Section 01 11 00.

E. Provide sub schedules to define critical portions of the entire schedule.

F. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the 25th day of each month.

G. Provide separate schedule of submittal dates for shop drawings, product data, samples, and dates reviewed submittals will be required from Engineer. Indicate decision dates for selection of finishes.

1.04 REVISIONS TO SCHEDULES

A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.

B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

C. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect.

1.05 SUBMITTALS

A. Submit initial schedules within 20 days after date established in Notice to Proceed. After review, resubmit required revised data within ten days.

B. Submit revised Progress Schedules with each Application for Payment.

C. Submit the number of opaque reproductions which Contractor requires, plus two copies which will be retained by Engineer.

1.06 DISTRIBUTION

A. Distribute copies of reviewed schedules to Project site file, Subcontractors, suppliers, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 32 00

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Proposed products list.

D. Shop drawings.

E. Product data.

F. Samples.

G. Manufacturers' instructions.

H. Manufacturers' certificates.

1.02 SUBMITTAL PROCEDURES

A. Forms and Stamps
   1. Transmit each submittal with Engineer accepted form.
   2. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.
   3. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number, and specification Section number, as appropriate.
   4. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the work and Contract Documents.

B. Schedule submittals to expedite the Project, and deliver to Engineer at business address. Coordinate submission of related items.

C. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed work.

D. Format
   1. Shop Drawings shall not be based on reproductions of Contract Documents.
   2. Present the submittal information in a clear and thorough manner and in sufficient detail to show kind, size, arrangement, and function of components, materials, and devices, and compliance with Contract Documents.
   3. Provide space for Contractor and Engineer review stamps.

E. Engineer’s Review and Approval
   1. Engineer will review and approve with reasonable promptness (within 14 days for most submittals, but additional time may be required depending upon the complexity of the submittal) Shop Drawings and samples, but Engineer's review and approval will be only for conformance with the design concept of the Project and for compliance with the

information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required 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. Contractor shall make corrections required by Engineer, and shall resubmit 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.

2. Engineer's review and approval of Shop Drawings or samples shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has in writing called Engineer's attention to each such variation at the time of submission and Engineer had given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by Engineer relieve Contractor from responsibility for errors or omissions in the Shop Drawings.
3. Where a Shop Drawing or sample is required by Specifications, any related Work performed prior to Engineer's review and approval of the pertinent submission will be the sole expense and responsibility of Contractor.

F. Revise and resubmit submittals as required, identify all changes made since previous submittal.

G. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

1.03 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in duplicate within 20 days after date of Owner Contractor Agreement established in Notice to Proceed for Engineer review.

B. Revise and resubmit as required.

C. Submit revised schedules with each Application for Payment, identifying changes since previous version.

D. Submit a horizontal bar chart with separate line for each section of work, identifying first work day of each week.

E. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.

F. Indicate estimated percentage of completion for each item of work at each submission.

G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.

1.04 PROPOSED PRODUCTS LIST

A. Within 15 days after date of Owner Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.05 SHOP DRAWINGS

A. Submit PDF files for review by e-mail.

B. After review distribute in accordance with Article on Procedures above and for Record Documents described in Section 01 77 00 Closeout Procedures.

1.06 PRODUCT DATA

A. Submit PDF files for review by e-mail.

B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.

C. After review, distribute in accordance with Article on Procedures above and provide copies for Record Documents described in Section 01 77 00 Closeout Procedures.

1.07 SAMPLES

A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

B. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Owner's selection.

C. Include identification on each sample, with full Project information.

D. Submit the number or samples specified in individual specification Sections; two of which will be retained by Engineer.

E. Reviewed samples which may be used in the work are indicated in individual specification Sections.

1.08 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start up, adjusting, and finishing, in quantities specified for Product Data.

B. Identify conflicts between manufacturers' instructions and Contract Documents.

1.09 MANUFACTURER'S CERTIFICATES

A. When specified in individual specification Sections, submit manufacturers' certificate to Engineer for review, in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 33 00

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Quality assurance and control of installation.

B. Field samples.

C. Mock up.

D. Inspection and testing laboratory services.

E. Manufacturers' field services and reports.

1.02 QUALITY ASSURANCE/CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply fully with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform work by persons qualified to produce workmanship of specified quality.

F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.03 FIELD SAMPLES

A. Install field samples at the site as required by individual specifications Sections for review.

B. Acceptable samples represent a quality level for the work.

C. Where field sample is specified in individual Sections to be removed, clear area after field sample has been accepted by Engineer.

1.04 MOCK UP

A. Tests will be performed under provisions identified in this section.

B. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals, and finishes.

C. Where mock up is specified in individual Sections to be removed, clear area after mock up has been accepted by Engineer.

1.05 INSPECTION AND TESTING LABORATORY SERVICES

A. Owner will appoint, employ, and pay for services of an independent firm to perform inspection and testing.

B. The independent firm will perform inspections, tests, and other services specified in individual specification Sections and as required by the Engineer.

C. Reports will be submitted by the independent firm to the Engineer, in duplicate, indicating observations and results of tests and indicating compliance or non compliance with Contract Documents.

D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
   1. Notify Engineer and independent firm a minimum of 24 hours prior to expected time for operations requiring services.
   2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

E. Retesting required because of non conformance to specified requirements shall be performed by the same independent firm on instructions by the Engineer. Payment for retesting will be charged to the Contractor by deducting inspection or testing charges from the Contract Sum/Price.

1.06 MANUFACTURERS' FIELD SERVICES AND REPORTS

A. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer subject to approval of Engineer and Owner.

B. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start up of equipment, test, adjust, and balance of equipment and as applicable, and to initiate instructions when necessary.

C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

D. Submit report in duplicate within 30 days of observation to Engineer for review.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 40 00

SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Quality assurance.

1.02 QUALITY ASSURANCE

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or required by other applicable codes.

B. Conform to reference standard by date of issue current on date for receiving bids.

C. Obtain copies of standards when required by the Contract Documents.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.

F. The contractual relationship, duties, and responsibilities of the parties in Contract nor those of the ENGINEER shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 42 00

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Temporary Utilities: Lighting, heat, ventilation, water, and sanitary facilities.

B. Temporary Controls: Barriers, enclosures and fencing, protection of the Work, and water control.

C. Construction Facilities: Access roads, parking, progress cleaning, project signage, and temporary buildings.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted.

B. At end of construction, return facilities to same or better condition as originally found.

3.02 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.

C. Provide protection for plant life designated to remain. Replace damaged plant life.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

3.03 WATER CONTROL

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water.

C. Meet all requirements of the NPDES permit.

3.04 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

3.05 SECURITY

A. Provide security and facilities to protect Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Coordinate with Owner's security program.

3.06 ACCESS ROADS AND PARKING

A. Construct and maintain temporary roads accessing public thoroughfares to serve construction area.

B. Extend and relocate as work progress requires. Provide detours necessary for unimpeded traffic flow through the plant.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering county roads.

E. Designated existing on-site roads may be used for construction traffic.

F. All mud and dirt shall be removed from the roads each work day to allow the Owner’s personnel to access their work areas.

G. Provide temporary gravel surface parking areas to accommodate construction personnel.

H. When site space is not adequate, provide additional off-site parking.

I. Do not allow vehicle parking on existing pavement.

J. Designate two parking spaces for the Engineer.

3.07 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

E. Open free-fall chutes not permitted. Terminate closed chutes into appropriate containers with lids.

3.08 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Final Application for Payment inspection.

B. Remove underground installations to a minimum depth of four (4) feet. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

3.09 LICENSES AND PERMITS

A. The Contractor shall be responsible for securing from the local municipalities all required permits, licenses and for paying all taxes required to perform the Contract work.

B. The Contractor shall be responsible for compliance with all Federal, State and local laws and ordinances regarding licenses and permits.

3.10 REGULATORY REQUIREMENTS

A. Secure from the office of the Inspection Services, Division of the Public Works Departments of the local Municipalities, Information for Regulatory Licenses, and Permits required.

B. Obtain required permits and licenses from each applicable Municipality.

C. Requirements contained in each individual authority's permit shall become the provisions and requirement for completion of the work.

3.11 STORM WATER RUNOFF

A. The Contractor shall be responsible for securing National Pollutant Discharge Permit System General Permit from ADEM for stormwater runoff during construction.

B. The Contractor shall furnish, construct and maintain all silt fences, silt barriers and siltation ponds to prevent any silt or pollutants from running off the jobsite.

C. The silt fences, silt barriers and siltation ponds are shown on the Drawings as a minimum requirement for the Contractor. The Contractor shall meet all requirements of the NPDES permit.

D. The Best Management Practices shall be in use during the entire job for storm water runoff.

E. Silt barriers, silt fences and siltation ponds shall be operational and in proper position before the Contractor leaves for the day, holiday or weekend.

F. No construction shall be allowed until the Contractor has shown the NPDES permit to the Owner including storm water runoff plan.

G. Contractor shall obtain from the proper authorities the following documents:
   1. EPA - Best Management Practices
   2. ADEM - NPDES Permit
   3. ADEM - Best Management Practices

3.12 LOCATION OF UNDERGROUND OBSTRUCTIONS

A. When crossing or running adjacent to existing utilities, plant piping and storm drains, exact location shall be made by hand excavation prior to installation of new piping.

B. The Contractor shall be responsible for carefully protecting utilities and storm drains during excavation and pipe line installation.

END OF SECTION 01 50 00

SECTION 01 51 39 – TEMPORARY SANITARY SEWER FLOW CONTROL

PART 1 - GENERAL

1.01 REFERENCES

A. The following is a list of standard which may be referenced in this section:
   1. ASTM International (ASTM):
      a. D3350, Standard Specification for Polyethylene Plastic Pipe and Fitting Materials.
   2. American Water Works Association (AWWA):
      a. C110/A21.20, ANSI Standard for Ductile Iron and Gray Iron Fittings, 3 in. – 48 in., for Water.
      b. C111/A21.11, ANSI Standard for Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.
      c. C151/A21.51, ANSI Standard for Ductile Iron Pipe, Centrifugally Cast, for Water.

1.02 DEFINITIONS

A. Flow Control: Procedure and method to reduce or eliminate flow in a downstream sewer to a level adequate for removal of existing piping and diversion of flow into other gravity mains.

B. Temporary Bypass Pumping Flow: Flow control method that uses a temporary bypass pumping system.

1.03 PERFORMANCE REQUIREMENTS

A. It is essential to operation of existing sewerage system that there be no interruption in flow of sewage throughout duration of Project.

B. Provide, maintain, and operate temporary facilities such as dams, plugs, pumping equipment conduits, and necessary power to intercept sewage flow before it reaches the point where it would interfere with the Work.

C. Maintain sewer flow around the Work area in a manner that will not cause surcharging of sewers, damage to sewers, and that will protect public and private property damage.

D. Protect water resources, wetlands, and other natural resources.

1.04 SUBMITTALS

A. Informational Submittals:
   1. Flow Control Plan: Submit at least 2 weeks prior to controlling flows. Include, as a minimum, the following:
      a. Estimate of peak amount of flow to be controlled.
      b. Detailed procedures for handling peak estimated flow.
      c. Schedule.
      d. Drawing of plug and/or bypass pumps and pipeline locations.
      e. Listing of equipment.
         1) Bypass pump sizes, capacities, number of each size to be onsite, and power requirements including standby equipment.

2) Bypass pipeline sizes and material types.

f. Operation Plan.

g. Location Plan with map of pump area and bypass pipeline route.

PART 2 - PRODUCTS

2.01 FLOW CONTROL SYSTEM

A. General:

1. Provide adequate capacity and size to handle estimated existing dry weather flow plus additional flows that may occur during periods of rainstorms until operations can be shut down and system flow restored. The following are observed flows in MGD from October 28, 2014 through January 5, 2015:

| Avg Dry Day | Max Dry Day | Max Wet Day |
|---|---|---|
| 3.70 | 5.33 | 15.19 |

B. Plugs:

1. Provide with taps for connection of pressure gauges and air hoses, and flow-through capability.
2. Pipe diameters 24 inches and Smaller: Use mechanical plugs with rubber gaskets or pneumatic plugs with rubber boots.
3. Pipe Diameters Larger than 24 inches:
   a. Use Inflatable bag stoppers made in two or more pieces.
   b. Manufacturer: Lansas, Cherne Industries or equal.

C. High-Density Polyethylene (HDPE) or Ductile Iron Discharge Piping:

1. Leak Free
2. Pressure rating at least 1.5 times the operating pressure.
3. HDPE Pressure Piping:
   a. In accordance with ASTM D3350
   b. SDR of 32.5, maximum
   c. Joints: Butt-fusion welded.
4. Ductile Iron:
   a. AWWA C151/A21.51, Centrifugally cast, Grade 60-42-10 iron.
   b. Joints: Rubber gasketed push-on in accordance with AWWA C111/21.11
   c. Fittings: In accordance with AWWA C110/A21.20.
5. May reuse for subsequent flow bypass pumping system placements. Owner or Engineer, at their sole discretion, shall have right to reject sections deemed unserviceable.

D. Bypass Pumps:

1. Fully automatic, self-priming units that do not require the use of foot valves.
2. Ability to pump minimum 3-inch-diameter solids.
3. Able to run dry for long periods of time to accommodate cyclical nature of flows.
4. Engine: Equipped to minimize noise.
5. Standby Pump: One of each size to be available onsite.
6. Telemetry: System shall be equipped with telemetry and an autodialer to automatically notify the Contractor and Owner in the event of pump failure or high water alarm in the bypass pumping setup. System shall include a phone tree where in the event the primary contact cannot be reached, the system will proceed down the phone tree until communication has been achieved.

PART 3 - EXECUTION

3.01 GENERAL

A. Notify Engineer and Owner at least 48 hours prior to implementing flow control system. Begin operations after considering long-range weather forecast to minimize the need for handling wet weather flows.

B. Operate and maintain 24 hours per day, 7 days per week, including holidays, as required, to control flow.

C. Take all necessary precautions to ensure no private or public properties are subjected to a sewage backup or spill. Contractor shall be solely responsible for all cleanup, damages, and resultant fines in the event of a backup or spill.

D. Depth of sewage shall not exceed top of pipe. If this level is exceeded Contractor shall immediately take actions to increase pumping capacity or restore gravity flow to relieve sewer. Contractor shall monitor water elevation in upstream manholes to ensure that flow is not being backed up into the collection system.

E. If flow exceeds peak estimated flow that flow control system was designed for, the Contractor shall mobilize and provide additional pumping capacity unless it is possible to stop all Work that requires flow control, secure work area, and restore flow in sewer until flow recedes.

F. After the work is completed, return the flow to the replaced sewers or new facilities, remove temporary equipment, and restore affected areas.

3.02 BLOCKING FLOW

A. Flow control may consist of blocking flow with mechanical or pneumatic plugs if only a small amount of flow needs to be controlled and adequate storage is available.

B. Use primary and secondary plugs for each flow control location.

C. When blocking flow is no longer needed for performance and acceptance of the Work, remove plugs in a manner that permits flow to slowly return to normal without surcharging or causing other major disturbances downstream.

D. Remove temporary plugs at the end of each working day and restore normal flow if possible. If downstream work is not or cannot be completed during the workday provide, operate, and maintain bypass pumping system.

3.03 BYPASS PUMPING

A. Design, furnish, install, and maintain all power, primary and standby pumps, appurtenances, tanks and trucks, and bypass piping to maintain existing flows and services.

B. Obtain approval and secure all permits for placement of temporary bypass pumping system and pipeline within public right-of-way.

C. Site Verification:
   1. Locate existing utilities in area of bypass pipelines.

2. Bypass Pipeline Location:
    a. Minimize disturbance of existing utilities.
    b. Confine bypass discharge pipeline within public right-of-way or temporary construction area and permanent easement.
    c. When bypass pipeline crosses local streets and private driveways, place bypass pipeline in trench and cover with temporary pavement.
    d. Installation of bypass pipelines is prohibited in wetland areas.

D. Flow bypass shall be done in such a manner that will not damage private or public property, or create a nuisance or public menace. Pumped sewage shall be in an enclosed pipe that is adequately protected from traffic, and shall be redirected into sanitary sewer system. Dumping or free flow of sewage on private or public property, gutters, streets, sidewalks, or into storm sewers is prohibited.

## 3.04 FIELD QUALITY CONTROL

A. Hydrostatic Pressure Test for Pump Bypass System:
    1. Prior to operation, test each section of discharge piping with maximum pressure equal to 1.5 times the maximum operating pressure of system.
    2. Notify Engineer 48 hours prior to testing.
    3. System shall be operated successfully for a minimum of 12 hours and all alarm features and telemetry shall be successfully demonstrated prior to starting of Construction activities to divert flow into new gravity mains to ensure reliability.

## 3.05 CLEANING

A. Before bypass pumping system is broken down, and moved to next section or removed at the completion of the Work, discharge sewage remaining in bypass discharge pipeline and pumping equipment to working sewer.

B. Disturbed Areas: Upon completion of bypass pumping operation, clean disturbed areas, restoring to condition, including pavement restoration, at least equal to that which existed prior to start of the Work.

END OF SECTION 01 51 39

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Products.

B. Transportation and handling.

C. Storage and protection.

D. Product options.

E. Substitutions.

1.02 PRODUCTS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the work. Products may also include existing materials or components required for reuse.

B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

C. Provide interchangeable components of the same manufacturer, for similar components.

1.03 TRANSPORTATION AND HANDLING

A. Transport and handle products in accordance with manufacturer's instructions.

B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.04 STORAGE AND PROTECTION

A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather tight, climate controlled enclosures.

B. For exterior storage of fabricated products, place on sloped supports, above ground.

C. Provide off-site storage and protection when site does not permit on site storage or protection.

D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

E. Store loose granular materials on solid flat surfaces in a well drained area. Prevent mixing with foreign matter.

F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

1.05 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request twenty-one (21) days before bids are received for substitution for any manufacturer not named or seek approval during submittals at Contractor's risk. If substitution is not approved, provide one by named manufacturers.

D. Products specified and declared in Bid Documents: No substitution without Engineer's approval before submittals.

1.06 SUBSTITUTIONS

A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions for major equipment during the bidding period to requirements specified in this Section.

B. Substitutions shall not be allowed for items listed as no substitutions allowed in the individual specification section.

C. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

D. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

E. A request constitutes a representation that the Bidder:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Will provide the same warranty for the Substitution as for the specified product.
   3. Will coordinate installation and make changes to other work which may be required for the work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.
   5. Will reimburse Owner for review and redesign services associated with re approval by authorities.

F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

G. Substitution Submittal Procedure:
   1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
   3. The Engineer will notify Contractor, in writing, of decision to accept or reject request.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 60 00

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Closeout procedures.

B. Final cleaning.

C. Adjusting.

D. Project record documents.

E. Spare parts and maintenance materials.

1.02 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer's inspection.

B. Provide submittals to Engineer and Owner that are required by governing or other authorities.

C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

D. Owner will occupy the entire site.

E. Advertise completion and submit proof of advertisement to Engineer.

F. Provide Consent of Surety Company to final payment.

1.03 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Clean equipment and fixtures to a sanitary condition.

D. Replace filters of operating equipment.

E. Clean debris from roofs, gutters, downspouts, and drainage systems.

F. Clean site; sweep paved areas, rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.04 ADJUSTING

A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.05 PROJECT RECORD DOCUMENTS

A. Maintain on site, one set of the following record documents; record actual revisions to the work:
   1. Contract Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other Modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.

B. Store Record Documents separate from documents used for construction.

C. Record information concurrent with construction progress.

D. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and Modifications.

E. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract Drawings.

F. Submit documents to Engineer with claim for final Application for Payment.

1.06 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance, and extra materials in quantities specified in individual specification Sections.

B. Deliver to Project site and place in location as directed; obtain receipt prior to final payment.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 77 00

SECTION 01 78 30 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Form of submittals.

B. Preparation and submittal.

C. Time and schedule of submittals.

1.02 FORM OF SUBMITTALS

A. Bind in commercial quality, 8 1/2 x 11 inch three ring side binders with hardback, cleanable, plastic covers.

B. Label cover of each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible principal.

C. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification Section in which specified, and the name of the product or work item.

D. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

1.03 PREPARATION OF SUBMITTALS.

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item or work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

1.04 TIME OF SUBMITTALS

A. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.

B. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.

C. For items of work when acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 78 30

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of embedded utilities and components which are concealed from view in “As Built” drawings.

1.02 QUALITY ASSURANCE

A. Perform Work in accordance with these specifications and ACI 301.

B. Acquire cement and aggregate from same source for all work.

C. Conform to the requirements of these specifications and ACI 305R when concreting during hot weather.

D. Conform to the requirements of these specifications and ACI 306R when concreting during cold weather.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS

A. Portland Cement: ASTM C150, Type I.

B. Fine Aggregate: ASTM C33, natural quartz sand; sand made from crushing stone shall not be acceptable. Fine aggregates shall be graded to the following limits:

| | Sieve Size | Percent Passing |
|---|---|---|
| 1. | 3/8 " | 100 |
| 2. | #4 | 95-100 |
| 3. | #8 | 80-100 |
| 4. | #16 | 50-85 |
| 5. | #30 | 25-60 |
| 6. | #50 | 10-30 |
| 7. | #100 | 2-10 |

C. Coarse Aggregate: ASTM C33, hard, durable, dense particles of stone or gravel. Course aggregates shall be graded to the following limits except where smaller gradations are pre-approved in structural elements with congested steel.

| | Sieve Size | Percent Passing |
|---|---|---|
| 1. | 1 1/2 " | 100 |
| 2. | 1 " | 95-100 |
| 3. | 1/2" | 25-60 |
| 4. | #4 | 0-10 |
| 5. | #8 | 0-5 |

D. Water: Clean and not detrimental to concrete. No water shall be added at the job site unless approved by the ENGINEER’S representative.

2.02 ADMIXTURES

A. Chemical: When approved by the ENGINNEER, Provide admixtures certified by manufacturer to be compatible with other admixtures and that will contribute water-soluable chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
   1. Water Reducing: ASTM C494, Type A.
   2. Retarding: ASTM C494, Type B.
   3. Water Reducing and Retarding: ASTM C494, Type D.
   4. High Range, Water Reducing: ASTM C494, Type F.
   5. High Range, Water Reducing and Retarding: ASTM C494, Type G.

B. Fly Ash: ASTM C618; Type F with a loss on ignition of 6% maximum. Maximum allowable alkalies as Na2 shall be 1.5%.

C. Air Entraining Admixture: ASTM C260.

2.03 AIR ENTRAINED CONCRETE

A. Concrete used shall be air entrained. When approved by the Engineer, concrete shall contain an admixture for controlling the setting rate. Testing shall be in accordance with ASTM Standards.

B. In general, for the course aggregate size specified above, the air content shall be 6% plus or minus 1% except when changed by the Engineer or the Testing Laboratory responsible for the design mix and plant inspection.

C. If the air content is not satisfactory, the Contractor may be required to remove and replace the concrete without extra compensation or the concrete may be refused to be poured. Concrete refused at the site cannot be used and must be permanently removed from the job site.

2.04 CONCRETE MIX

A. Mix and deliver concrete in accordance with ASTM C94 and ASTM C1116. When the air temperature is between 85 and 90 degree F, reduce the maximum mixing and delivery time from 90 minutes to 75 minutes. When the air temperature is above 90 degrees F, reduce the maximum mixing and delivery time to 60 minutes.

B. Select proportions for normal weight concrete in accordance with ACI 301 2. Unless specifically indicated otherwise in the Plans, all reinforced concrete shall be Class ‘A’. Non-reinforced, buried concrete for encasements, fills, thrust blocks, etc. may be Class ‘B’.

C. Provide concrete mix Class 'A' to the following criteria:
   1. Compressive Strength (28 days): 4500 psi
   2. Slump: 4 to 6 inches
   3. Maximum Water/Cement Ratio: 0.45
   4. Minimum cementitious material 611 lb/cy

D. Provide concrete mix Class 'B' to the following criteria:
   1. Compressive Strength (28 days): 3000 psi
   2. Slump: 4 to 6 inches

3. Maximum water to cement ratio: 0.59
4. Minimum cementitious material 517 lb/cy

E. Use accelerating admixtures in cold weather only when approved by Engineer. Use of admixtures will not relax cold weather placement requirements.

F. Use set retarding admixtures during hot weather only when approved by Engineer.

G. Fly Ash: Type F ASTM C618; 15% minimum and 25% maximum, by weight.

H. Class B concrete shall contain 400 pounds of cement with 100 pounds of Type F fly ash.

I. Concrete supplier shall use a chiller for the water to maintain the concrete mix temperature below 90°F.

J. The concrete shall be furnished from only one supplier for the entire project.

2.05 GENERAL CONSTRUCTION GROUT

A. Grout to be swept in as topping for floors of structures equipped with collecting equipment shall be a cement/sand mix in proportion 1:3 and having slump not exceeding 6 inches. Slump may vary according to practice of the representative of the particular equipment manufacturer. Construction grout used for closing in box-outs, filling holes in concrete, patching walls and similar applications shall be non-shrink, expanding type.

B. Non-Shrink Grout: Premixed compound consisting of non- metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 4,000 psi in 48 hours and 8,900 psi in 28 days; Sika Grout 212 manufactured by Sika or equivalent. To be used under equipment.

C. Non-ferrous, non-staining non-bleeding.

D. Grout shall conform to ASTM C1107.

E. Type I cement shall be used to match the concrete mix being used.

2.06 REINFORCEMENT

A. Reinforcing Steel: ASTM A615, 60 ksi yield grade; deformed billet steel bars, plain.

B. Reinforcing Steel Mat: ASTM A615, 60 ksi yield grade; steel bars or rods, plain finish.

C. Stirrup Steel: ANSI/ASTM A82, plain.

D. Welded Steel Wire Fabric: ASTM A497 Welded Deformed Type; in flat sheets or rolls; plain finish.

2.07 ACCESSORY MATERIALS

A. Tie Wire: Minimum 16 gage annealed type.

B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.

C. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel type; size and shape as required.

2.08 FABRICATION

A. Fabricate concrete reinforcing in accordance with CRSI Manual of Practice.

B. Weld reinforcement in accordance with ANSI/AWS D12.1.

C. Locate reinforcing splices not indicated on Drawings, at point of minimum stress. Review location of splices with Engineer.

D. Bends shall be made around a pin having a diameter not less than six (6) times the bar diameter except for bars larger than one (1) inch, in which case the bends shall be made around a pin of eight (8) bar diameters.

2.09 BATCH PLANTS

A. Batch plants shall meet the requirements of the ALDOT Standard Specifications and ALDOT - 352.

B. Batch plants shall be certified by the National Ready Mix Concrete Association (NRMCA) to be in conformance with the NRMCA Plant Certification Checklist.

C. The concrete producer shall submit proof of NRMCA and ALDOT certification to the Engineer and Owner before any concrete will be batched.

D. All mixing and transporting equipment shall have automatic counters and gauges in complete working order as approved by ALDOT.

E. Any transporting equipment without working counters and gauges shall not be allowed to discharge on the jobsite.

F. Batch plants shall use water chillers to maintain the concrete mix temperature below 90 degrees F whenever the ambient temperature is above 85degrees F.

G. Batch plant materials shall be maintained at 50 degrees F before being batched. The plant shall use hot water and/or auxiliary heat to maintain the correct temperatures.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify all site conditions affecting the proposed work.

B. Verify requirements for concrete cover over reinforcement.

C. Verify that anchors, seats, plates, reinforcement, pipes, conduits, and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

## 3.02 PREPARATION

A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.

B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

## 3.03 PLACING CONCRETE

A. Place concrete in accordance with ACI 304.

B. Notify Engineer minimum 24 hours prior to commencement of operations.

C. Ensure reinforcement, inserts, embedded parts, formed joint fillers, joint devices and conduit are not disturbed during concrete placement.

## 3.04 TAMPING AND VIBRATING

A. As concrete is placed in the forms or in excavations, it shall be thoroughly settled and compacted, throughout the entire depth of the layer which is being consolidated, into a dense, homogeneous mass, filling all corners and angles, thoroughly embedding the reinforcement, eliminating rock pockets, and bringing only a slight excess of water to the exposed surface of concrete during placement. Vibrators shall be high speed power vibrators (8000 to 10,000 rpm) of an immersion type in sufficient number and with (at least one) standby units as required.

## 3.05 CONCRETE FINISHING – GENERAL

A. Surfaces shall be free from fins, bulges, ridges, offsets, honeycombing, or roughness of any kind, and shall present a finished, smooth, continuous hard surface. Allowable deviations from plumb or level and from the alignment, profiles, and dimensions shown are defined as tolerances. These tolerances are to be distinguished from irregularities in finish as described herein. Aluminum finishing tools shall not be used.

B. All concrete surfaces shall be finished to the elevation shown on the Drawings. Where surfaces of concrete pours are specified and/or indicated to have final finish other than the monolithic concrete, the monolithic pour shall be terminated at such level below the final finish elevation as is correct or suitable for the particular final finish.

C. Unless indicated otherwise in the Plans or required for special floor finishes, unformed surfaces shall be finished according to the following:

| | | |
|---|---|---|
| 1. | Grade slabs and foundations to be covered with concrete or fill material. | S1 |
| 2. | Floors with architectural finish or covered with grouted tile or grout . | S2 |
| 3. | Basin, tank or channel slabs with slopes 10 percent and less . | S3 |
| 4. | Basin, tank or channel slabs with slopes greater than 10 percent. | S4 |
| 5. | Interior slabs of buildings, pipe galleries, etc. in dry areas. | S3 |

6. Interior slabs of buildings, pipe galleries, etc. in wet areas. S4
7. Exposed roof slabs, stairs, landings, sidewalks. S4
8. Slabs to be covered with built-up roofing. S2

## 3.06 CONCRETE FINISHING – FORMED SURFACES

A. All Concrete: Concrete and grout surfaces shall be true and even, and shall be free from open or rough spaces, depressions, or projections. Clean and patch all defective areas, cavities left by form ties, or any other device. Contractor shall not repair any defects until concrete has been reviewed by ENGINEERS' Project Representative.

B. All Concrete: After removal of forms, remove all bulges, fins, form marks, or other irregularities that may adversely affect the appearance or function of all concrete. Provide "Rough-Formed Finish" per ACI 301 removing projections greater than ¼" for below grade, non-exposed surfaces and a "Smooth-Formed Finish" per ACI 301 for all others.

## 3.07 REINFORCING STEEL

A. Reinforcing shall be properly bent and free from rust, mill scale, and other foreign substance. Reinforcing bars should not be bent or straightened in a manner that will injure the materials. Bars with kinks or improper bends should not be used. Bars shall not be bent in the field except for realignment of #7 through #18 rebar up to about a 30□ bend and #3 through #6 rebar up to about a 45˚ bend. No bars partially embedded in concrete shall be field bent. Exposed reinforcement bars for future extensions shall be protected from corrosion and concrete splatter.

B. Reinforcing shall be in accordance with the Plans and approved Shop Drawings. The Contractor shall furnish reinforcing bar details and marking or erection diagrams to the Engineer for review. These shall be on the same size drawings as the Engineers= Plans, and shall be clear and legible. Any splicing, other than that shown in the Plans or Shop Drawings, shall be approved by the Engineer.

C. The clear distance between parallel reinforcing bars in a layer should not be less than the nominal diameter of the bars, 1 inch or 1-1/3 times the nominal maximum size of the coarse aggregate, whichever is greatest. Where parallel reinforcement is placed in two or more layers, the bars in the upper layers should be placed directly above those in the bottom layer with the clear distance between layers not less than one inch. All reinforcements shall be protected by a thickness of concrete as follows:

1. For concrete deposited against the ground without the use of forms, the steel shall be 3 inches, except a 4 inch slab shall have 2 inches of cover.
2. For concrete exposed to the weather or to the ground with the use of forms, the steel shall be 2 inches for bars larger than #5 and 1-1/2 inches for #5 bars or less.
3. For slabs and walls not exposed to the ground or to the weather, the steel concrete cover shall be 3/4 inch for #11 bars and smaller or 1-1/2 inch for #14 and #18 bars.
4. Underside of slabs exposed to sewer and other harsh affects shall have 1 inch of cover for 6 inch slabs and 1-1/2 inches for 8 inch and greater slabs.
5. For beams, girders, and columns not exposed to the ground or to the weather, the steel concrete cover shall be 1-1/2 inches.

3.08 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing. Finished concrete shall be protected during cold weather (i.e. if the temperature is below 35 degrees F for a period of 4 hours during any consecutive 24 hours) by maintaining a temperature at 50 degrees F minimum during the first 10 days following the pour.

3.09 PLACING CONCRETE IN HOT AND COLD WEATHER

A. Comply with ACI 306.1 and ACI 301 noting the following.

B. Concrete, when placed in forms, shall have a temperature greater than 50 degrees F and less than 90 degrees F.

C. Concrete shall not be poured until the ambient temperature is 40 degrees F and rising, as measured at the Engineer's trailer at the job site.

D. When the temperature is between 35degrees F and 50 degrees F, the Contractor shall take measures that may include insulation of the poured concrete structure, protective covers and heat sources capable of maintaining temperature of the poured structure at 50 degrees F for the time period specified below.

E. The protective covers and heat services shall be maintained before the pour and a minimum of seventy-two (72) hours after the pour as agreed upon with the ENGINEER.

3.10 FIELD QUALITY CONTROL

A. At owner’s option, field inspection and testing may be performed in accordance with ACI 301 and under provisions of Section 01 40 00.

B. Provide free access to Work and cooperate with appointed firm.

C. Submit proposed mix design of each class of concrete to Engineer for review prior to commencement of Work per Section 01 33 00.

D. Concrete testing shall be conducted by an independent testing agency by the Owner. The cost of all supplemental investigations, testing, etc. required due to unsatisfactory or failing test results shall be borne by the Contractor.

END OF SECTION 03 30 00

SECTION 31 10 00 - SITE CLEARING

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.

C. Utility Locator Service: Notify One Call for area where Project is located before site clearing.

D. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.

E. Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance.

B. Protect site improvements to remain from damage. Restore damaged improvements to condition existing before start of site clearing.

C. Locate and clearly flag trees and vegetation to remain or to be relocated.

D. Protect remaining trees and shrubs from damage and maintain vegetation. Employ a licensed arborist to repair tree and shrub damage. Restore damaged vegetation. Replace damaged trees that cannot be restored to full growth, as determined by arborist.

E. Do not store materials or equipment or permit excavation within drip line of remaining trees.

F. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to a sediment and erosion control plan, specific to the site, that complies with EPA document No. EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.

G. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.
   1. Arrange with utility companies to shut off indicated utilities.

3.02 SITE CLEARING

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction. Removal includes digging out stumps and obstructions and grubbing roots.

B. Strip topsoil. Stockpile topsoil that will be reused in the Work.
   1. Stockpile surplus topsoil to allow for respreading deeper topsoil.

C. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

D. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
   1. Neatly saw-cut length of existing pavement to remain before removing existing pavement.

E. In areas not to be further excavated, fill depressions resulting from site clearing. Place and compact satisfactory soil materials in 6-inch- thick layers to density of surrounding original ground.

F. Dispose of waste materials, including trash, debris, and excess topsoil, off Owner's property. Burning waste materials on-site is not permitted.
   1. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 31 10 00

SECTION 31 20 00 - EARTH MOVING

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

A. Unauthorized excavation consists of excavation below subgrade elevations or beyond indicated lines and dimensions without direction by ENGINEER. Unauthorized excavation, as well as remedial work directed by ENGINEER, shall be without additional compensation.

B. Do not interrupt existing utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Satisfactory Soil: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, or other deleterious matter.

B. Unsatisfactory Soil: ASTM D 2487 Soil Classification Groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.

C. Backfill and Fill: Satisfactory soil materials.

D. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

E. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

F. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

G. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.02 ACCESSORIES

A. Drainage or Filter Fabric: Nonwoven geotextile, specifically manufactured as a drainage geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:
   1. Grab Tensile Strength: 110 lbf; ASTM D 4632.
   2. Tear Strength: 40 lbf; ASTM D 4533.
   3. Puncture Resistance: 50 lbf; ASTM D 4833.
   4. Water Flow Rate: 150 gpm per sq. ft.; ASTM D 4491.
   5. Apparent Opening Size: No. 50 ; ASTM D 4751.

B. Stabilization Fabric: Woven geotextile, specifically manufactured for use as a separation geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:
   1. Grab Tensile Strength: 200 lbf; ASTM D 4632.
   2. Tear Strength: 75 lbf; ASTM D 4533.
   3. Puncture Resistance: 90 lbf; ASTM D 4833.
   4. Water Flow Rate: 4 gpm per sq. ft.; ASTM D 4491.
   5. Apparent Opening Size: No. 30; ASTM D 4751.

PART 3 - EXECUTION

3.01 EARTHWORK

A. Protect and maintain erosion and sedimentation controls during earth moving operations.

B. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

C. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

D. Excavate to subgrade elevations regardless of character of materials and obstructions encountered.

E. Excavate for structures, building slabs, pavements, and walkways. Trim subgrades to required lines and grades.

F. Utility Trenches: Excavate trenches to indicated slopes, lines, depths, and invert elevations. Maintain 12 inches of working clearance on each side of pipe or conduit.
   1. Place, compact, and shape bedding course to provide continuous support for pipes and conduits over rock and other unyielding bearing surfaces and to fill unauthorized excavations.
   2. Place and compact initial backfill of satisfactory soil material or subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit. Place and compact final backfill of satisfactory soil material to final subgrade.

G. Plow strip or break up sloped surfaces steeper than 1 vertical to 4 horizontal to receive fill.

H. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

I. When subgrade or existing ground surface to receive fill has a density less than that required for fill, break up ground surface, pulverize, moisture-condition or aerate soil, and recompact.

J. Place backfill and fill in layers not more than 8 inches in loose depth at optimum moisture content. Compact each layer under structures, building slabs, pavements, and walkways to 95 percent of maximum dry unit weight according to ASTM D 698; elsewhere to 90 percent.

K. Grade areas to a smooth surface to cross sections, lines, and elevations indicated. Grade lawns, walkways, and unpaved subgrades to tolerances of plus or minus 1 inch and pavements to plus or minus 1/2 inch.

L. Under pavements and walkways, place subbase course material on prepared subgrades and compact at optimum moisture content to required grades, lines, cross sections, and thicknesses.

M. Under slabs-on-grade, place drainage course on prepared subgrade and compact to required cross section and thickness.

N. Allow testing agency to inspect and test each subgrade and each fill or backfill layer and verify compliance with requirements.

O. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 20 00

SECTION 31 23 18 – ROCK REMOVAL

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Examination

B. Rock Removal by Mechanical Methods

C. Rock Removal by Explosive Methods

D. Blasting Techniques

1.02 REFERENCES

A. NFPA 495 – Code for Manufacture, Transportation, Storage, and Use of Explosive Materials

1.03 DEFINITIONS

A. Rock Excavation: Rock excavation shall consist of the loosening, removing, and disposing of all rock, solid limestone, or sandstone in original bed, in well-defined ledges, or in boulder form. It shall include all solid rock which cannot be removed until loosened by blasting or use of a track excavator mounted ram hoe. Boulders having a volume of more than one cubic yard shall be classified as rock. Material that can be loosened, separated, or ripped by means of heavy-duty power tools or excavating equipment shall not be classified as rock.

1.04 SUBMITTALS

A. Submittals shall be in accordance with provisions of Section 01 33 00 – Submittal Procedures.

B. The contractor shall submit shop drawings indication the proposed method of blasting, delay pattern, explosive types, type of blasting mat or cover, and intended rock removal method.

1.05 QUALITY ASSURANCE

A. The Contractor shall retain a company specializing in seismic surveys with at least five (5) years of documented experience.

B. The Contractor shall retain a company specializing in explosives for disintegration of rock with at least five (5) years of documented experience.

C. The Contractor shall perform visual inspection of foundation bearing surfaces and cavities formed by removed rock.

1.06 REGULATORY REQUIREMENTS

A. The Contractor shall conform to applicable code for explosive disintegration of rock and to NFPA 495 for handling explosive materials.

B. The Contractor shall obtain permits from authorities having jurisdiction before explosives are brought to the site or drilling is started.

1.07 SCHEDULING

A. The Contractor shall schedule work to avoid disruption to occupied buildings and traffic nearby.

1.08 MEASUREMENT AND PAYMENT

A. If there is no Bid Item for rock excavation, rock shall be an unclassified material and no separate measurement or payment shall be made for rock blasting, removal, or disposal.

B. When there is a Bid Item for rock excavation, measurement of rock shall be made after other material has been removed. In trench work, sections not less than 50 feet shall be stripped for measurement. Rock in structures shall be measured having vertical sides, extending one foot beyond the outside of the footings and extending to the bottom of the crushed stone cushion required below the footing by the Engineer or the bottom of the rock layer. The rock in trenches will be measured with vertical sides, the width being 2 feet greater than the nominal diameter of the pipe, and extending to the bottom of the crushed stone bedding required below the pipe.

1.09 ROCK SUPPORTING STRUCTURES

A. Where rock is the supporting material for structures, the Contractor shall expose and clean all foundation areas as required for inspection and evaluation of bearing conditions. All rock seams, voids, or fissures in the exposed areas shall be filled with crushed stone of suitable gradation.

1.10 ROCK EXCAVATION IN TRENCHES

A. Rock excavations in trenches for pipe shall be open cut unless otherwise shown in the Plans. Trenches shall be excavated to the depths shown in the Plans or as required to secure the specified minimum cover over the pipe. Rock shall be removed from around all pipe to provide bedding and compaction clearances indicated in the Plans and Specifications.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Explosives: Type recommended by the explosive firm, retained by the Contractor, following seismic survey.

B. Delay Service: Type recommended by the explosive firm retained by the Contractor.

C. Blast Mat Materials: Type recommended by explosives firm retained by the Contractor.

PART 3 - EXECUTION

3.01 EXAMINATION

A. The Contractor or his insurer shall conduct a pre-blast survey of all structures to determine the existing or pre-blast condition, such survey being a written description with special emphasis on existing defects and documented with appropriate photographs. This survey is intended to serve as a basis of comparison for any post-blast claims that may arise. The Contractor will

furnish the Engineer with a complete copy of said survey prior to initiation of any blasting. The Contractor or his insurer shall obtain the services of a competent vibration or seismologist consultant to conduct blast noise, vibration, and over pressure surveys at periodic intervals during the progress of the blasting operations.

B. The Contractor shall advise owners of adjacent buildings or structures in writing, prior to executing seismographic survey.

3.02 ROCK REMOVAL BY MECHANICAL METHODS

A. The Contractor shall drill holes and utilize expansive tools, wedges, or mechanical disintegration compounds to fracture rock.

B. The Contractor shall cut away rock at bottom of excavation to form level bearing.

C. The Contractor shall remove shaled layers to provide sound and unshattered base for footings or foundations.

D. In utility trenches, the Contractor shall excavate to six (6) inches below invert elevation of pipe and twenty-four (24) inches wider than pipe diameter.

E. Unless identified in the Plans for use in the work or disposal on the site, all excavated rock shall be disposed of by the Contractor.

F. The Contractor shall backfill unauthorized rock removal with concrete meeting the requirements of Section 03 30 00 - Cast-In-Place Concrete.

3.03 ROCK REMOVAL BY EXPLOSIVE METHODS

A. When the use of explosives is necessary for the prosecution of the Work, the Contractor shall exercise the utmost care not to endanger life or property, including new Work, and the Contractor shall carry on such Work in compliance with the applicable State and local laws and ordinances regulating the use of explosives. The Contractor shall be responsible for all damage resulting from the use of explosives.

B. Where explosives are stored or kept, they shall be stored in a secure manner in compliance with all State and local laws and ordinances, and all such storage places shall be clearly marked, "Dangerous - - Explosives." Where no local laws or ordinances apply, storage shall be provided satisfactorily to the Engineer and, in general, not closer than 1,000 feet from the Work or from any building, road, or other place of human occupancy.

C. The Contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the Work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable them to take such steps as they may deem necessary to protect their property from injury.

D. In trenches, the Contractor shall excavate six (6) inches below invert elevation of pipe and twenty-four (24) inches wider than pipe diameter.

E. Unless identified in the Plans for use in the work or disposal on the site, all excavated rock shall be disposed of by the Contractor.

F. The Contractor shall correct unauthorized rock removal or over break with concrete conforming to requirements of Section 03 30 00 - Cast-In-Place Concrete.

3.04 BLASTING TECHNIQUES

A. The Contractor is reminded that he has sole and complete responsibility for the conditions on, in, or near the job site, including safety of all persons and property during performance of the Work.

B. The required duty of the Engineer to conduct construction review of the Contractor's performance does not, and is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

C. The observation of safety provisions of applicable laws and local building and construction codes shall be the responsibility of the Contractor.

D. Drilling and blasting methods used in rock excavation shall be optional with the Contractor, but shall be conducted with the due regard to the safety of persons and property in the vicinity of the Work and in strict conformity with all laws, ordinances, and regulations governing blasting and the use of explosives. Rock excavation near structures of all types shall be conducted with the utmost care, and every precaution shall be taken to prevent damage to adjacent pipes, structures, personnel, or private property.

E. Any damage or injury of whatever nature to persons or property caused directly or indirectly by blasting operations shall be promptly repaired, replaced, or compensated for by the Contractor at his own expense and to the satisfaction of the persons injured or the Owners of the property damaged. It is the intent of this section to serve as protection to the Contractor to minimize the post-blast claims and not to require unwarranted Work.

F. The Contractor shall use every practical precaution available to minimize ground vibration, noise, and over pressure.

G. The Contractor and his insurer shall indemnify and save harmless the Owner and all his representatives from all claims for damages arising out of the use, transportation, or storage of explosives.

H. The Contractor shall be aware that blasting will not be permitted during peak hours of high traffic volume. The Engineer shall further restrict times when blasting may be conducted, if necessary. All precautions shall be taken during blasting operations to protect the general public.

I. The Contractor shall barricade open excavations occurring as part of this Work and post warning lights. The Contractor shall operate warning lights as recommended by authorities having jurisdiction.

END OF SECTION 31 23 18

SECTION 32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:
   1. American Standard of Testing Materials (ASTM):
      a. D1559, Standard Test Method for Resistance to Plastic Flow of Bituminous Materials Using Marshall Apparatus.
      b. D2041, Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.
      c. E699, Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee (1984).

1.02 DEFINITIONS

A. Combined Aggregate: All mineral constituents of an asphalt concrete mix, including mineral filler and separately sized aggregates.

B. Standard Specifications: The latest edition, including supplements of the Alabama Department of Transportation Standard Specifications for Highway Construction.

1.03 SUBMITTALS

A. Shop Drawings: Job-mix formula for pavements.

B. Quality Control Submittals:
   1. Manufacturer's Certificate of Compliance for the following materials:
      a. Aggregate: Gradation.
      b. Asphalt for Binder: Type and grade.
      c. Tack Coat: Type and grade of asphalt.
      d. Mixes: Job-mix formula.
   2. Manufacturer's Certificate of Proper Installation.
   3. Statement of qualification for independent testing laboratory.
   4. Test Results:
      a. For Each Trial Batch of the Mix Design:
         1) Aggregate gradation.
         2) Asphalt content.
         3) Stability number.
         4) Percent air voids.
         5) Percent voids in mineral aggregate.
         6) Density.
         7) Retained strength.
      b. Asphalt cement for binder.
      c. Field density.

1.04 QUALIFICATIONS

A. Independent Testing Laboratory: In accordance with ASTM E699.

1.05 ENVIRONMENTAL REQUIREMENTS

A. Temperature:
   1. Do not apply asphalt materials or place asphalt mixes when ground temperature is lower than 50 degrees F, air temperature is lower than 40 degrees F, or application surface is wet.
   2. Measure ground and air temperature in shaded areas away from heat sources or wet surfaces.

PART 2 - PRODUCTS

2.01 AGGREGATE

A. As specified in the Standard Specification for hot plant mix bituminous pavement; however, reclaimed material will not be acceptable.

2.02 MINERAL FILLER

A. As specified in the Standard Specifications.

2.03 TACK COAT

A. Emulsified asphalt, Type SS-1 or CSS-1 conforming to the Standard Specifications.

2.04 BLOTTER MATERIAL

A. As specified in the Standard Specifications.

2.05 ASPHALT CONCRETE MIXTURE

A. Asphalt Concrete: Type B, as specified in the Standard Specifications.

2.06 ASPHALT CEMENT

A. Asphalt cement to be used in the asphalt concrete mixture shall be Grade AG-10 as specified in the Standard Specifications.

2.07 SOURCE QUALITY CONTROL

A. Tests: Furnish services of independent testing laboratory to conduct tests.
   1. Job-Mix Formula for Pavements:
      a. Define gradation for each of the aggregate constituent used in mixture and establish exact proportion of each constituent to produce a gradation of aggregate within specified limits.
      b. Bulk specific gravity for each aggregate constituent.
      c. Measured maximum specific gravity of mix at optimum asphalt content determined in accordance with ASTM.
      d. Properties as stated in Standard Specifications, for at least four different asphalt contents other than optimum, two below optimum, and two above optimum.
      e. Percent of asphalt lost due to absorption by aggregate.

f. After each job-mix formula is established, the combined aggregate grading of respective mixture furnished to the Project shall meet tolerances specified in the Standard Specifications.

PART 3 - EXECUTION

3.01 GENERAL

A. Application Equipment: In accordance with the Standard Specifications.

B. Roadways: Construct to lines, grades, and cross-sections shown.

C. Traffic Control: Minimize inconvenience to traffic, but keep vehicles off freshly treated or paved surfaces to avoid pickup and tracking of asphalt. Maintain at least one-way traffic at all times.

D. Traffic Control: CONTRACTOR shall be solely responsible for traffic control and for meeting all federal, state, and local requirements for such.

3.02 CONTROL OF LINE AND GRADE

A. Provide and maintain intermediate control of the underlying base to meet finish surface grades and minimum thickness.

3.03 SURFACE PREPARATION FOR ASPHALT OVER EXISTING GRAVEL ROAD

A. Blade or otherwise work existing surface as necessary to achieve a smooth and thoroughly compacted surface.

B. Surface Depressions: Fill with base course, and thoroughly compact.

3.04 TACK COAT

A. Do not apply more tack coat than necessary for the day's paving operation.

B. Application: Apply tack coat uniformly to clean dry surfaces. Avoid overlapping of applications. Touch up missed or lightly coated surfaces and remove excess tack coat.

C. Application Rate: Minimum 0.05-gallon to maximum 0.15-gallon of asphalt (residual if diluted emulsified asphalt) per square yard of surface area. Apply at rate, within range specified, sufficient to assure good bonding, but not too heavy that surplus asphalt flushes into asphalt concrete being placed.

3.05 ASPHALT CONCRETE PAVEMENT PLACEMENT

A. Lay asphalt concrete over prepared base in a single lift to a total compacted thickness of 3 inches.

B. Collect and dispose of segregated aggregate from raking process. Do not scatter material over finished surface.

## 3.06 CONNECTIONS WITH EXISTING FACILITIES

A. Where asphalt concrete pavement connects to an existing roadway surface, bridge, railway crossing, or other facility, modify existing roadway profile to produce a smooth riding connection to existing facility.

B. Modifying Existing Surfaces: Sawcut existing paved surfaces to provide meet lines and surfaces. Allow for sufficient depth of removal to reinstall a minimum thickness of 1-inch of asphalt concrete.
   1. Meet Lines: Lines straight and edges vertical.
   2. Edges of Meet Line Cuts: Paint with tack coat prior to placing pavement.
   3. Sealing Meet Line: After placement of pavement, by painting with liquid asphalt or emulsified asphalt, cover immediately with clean, dry sand.

C. Paint edges of contact surfaces (curbs, manhole frames, etc.) before laying pavement, with tack coat or paving asphalt cement to provide watertight joints. Do not stain adjacent surfaces not intended to be coated.

## 3.07 JOINTS

A. Offset edge of each layer a minimum of 6 inches so joints shall not be directly over those in underlying layer.

B. Offset longitudinal joints in roadway pavements, so longitudinal joints in wearing layer coincides with pavement centerlines and lane divider lines.

C. Form transverse joints by cutting back on previous day's run to expose full vertical depth of layer.

## 3.08 PATCHING

A. Patch Thickness: 3 inches or thickness of adjacent asphalt concrete, whichever is greater.

B. Preparation:
   1. Remove damaged, broken, or unsound asphalt concrete adjacent to patches. Trim to straight lines exposing smooth, sound, vertical edges.

C. Construction:
   1. Place asphalt concrete mix across full width of patch in layers of equal thickness.
   2. Spread and grade asphalt concrete with hand tools or mechanical spreader, depending on size of area to be patched.
   3. Finished surface of patch shall be flush with adjacent surface and match grade, slope, and crown of adjacent surface.

D. Compaction:
   1. Roll patches with power rollers capable of providing compression of 200 to 300 pounds per linear inch. Use hand tampers where rolling is impractical.
   2. Begin rolling top course at edge of patches, lapping adjacent asphalt surface at least 1/2 the roller width. Progress toward center of patch overlapping each preceding track by at least 1/2 the width of roller. Make sufficient passes over entire area to remove roller marks and to produce desired finished surface.

E. Surface Smoothness of Replaced Pavement: New pavement shall not deviate more than plus ¼ inch or minus 0 inches when a straightedge is laid across patched area between edges of new pavement and surface of old surfacing.

3.09 COMPACTION

A. Roll until roller marks are eliminated and a density of 92 percent of measured maximum density determined in accordance with ASTM D2041 is obtained.

3.010 JOINT COMPACTION

A. Place top or wearing layer as continuously as possible.

B. Pass roller over unprotected end of freshly laid mixture only when laying of layer is discontinued long enough to permit mixture to become chilled.

C. Cut back previously compacted mixture when Work is resumed to produce a slightly beveled edge for full thickness of layer.

D. Cut away waste material and lay new mix against fresh cut.

3.011 TOLERANCES

A. Conduct measurements for conformity with crown and grade immediately after initial compression. Correct variations immediately by removal or addition of materials and by continuous rolling.

B. Tolerance Measurements:
   1. Completed Surface of Top or Wearing Layer: Uniform texture, smooth, and uniform to crown and grade.
   2. Completed surface shall not vary more than 1/8 inch from lower edge of 10-foot straightedge placed on surface parallel to centerline.
   3. Transverse slope of completed surface shall not vary more than ¼ inch in 10 feet from the rate of transverse slope shown.
   4. Finished grade shall not vary more than 0.02 feet.

C. Correct deviations in excess of specified tolerances by addition of asphalt concrete mixture to low places or removal of material from high places.

D. Wearing surface may be removed and replaced to achieve a satisfactory finish surface, if surface of completed pavement deviates by more than twice the specified tolerances.

3.012 FIELD QUALITY CONTROL

A. General: Provide services of independent testing laboratory to conduct tests.

END OF SECTION 32 12 16

SECTION 32 92 00 – TURF AND GRASSES

PART 1 - GENERAL

1.01 SECTION REQUIREMENTS

A. Submittals: Product Data certification of grass seed and product certificates.

B. Maintain turf until established, but for not less than 30 days.

1.02 REGULATORY REQUIREMENTS

A. Comply with regulatory agencies for fertilizer and herbicide composition.

1.03 MAINTENANCE DATA

A. Submit maintenance data for continuing Owner maintenance.

B. Include maintenance instruction, cutting method, maximum grass height, types, application frequency, and recommended coverage of fertilizer.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver fertilizer in water proof bags showing weight, chemical analysis, and name of manufacturer.

PART 2 - PRODUCTS

2.01 SOILS AND AMENDMENTS

A. Topsoil: ASTM D 5268, with pH range of 5.5 to 7, free of stones 1 inch or larger and other extraneous materials harmful to plant growth.

B. Lime: ASTM C 602, Class T, agricultural limestone.

C. Compost: Well-composted, stable, and weed-free organic matter; pH range of 5.5 to 8.

D. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture, free of chips, stones, sticks, soil, or toxic materials.

E. Commercial Fertilizer: Commercial-grade complete fertilizer, consisting of 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.

F. Slow-Release Fertilizer: Granular fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium; 20 percent nitrogen; 10 percent phosphorous; and 10 percent potassium; by weight.

G. Straw Mulch: Clean, mildew- and seed-free salt hay or threshed straw of wheat, rye, oats, or barley.

H. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic; free of plant-growth or germination inhibitors; with maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.

2.02 PLANTING SOIL MIX

A. Mix topsoil with the following soil amendments and fertilizers in the following quantities:
   1. Ratio of Loose Compost to Topsoil by Volume: 1:4.
   2. Weight of Commercial Fertilizer per 1000 Sq. Ft.: 14 pounds.
   3. Weight of Slow-Release Fertilizer per 1000 Sq. Ft.: 14 pounds.

2.03 SOD

A. The sod shall consist of live, growing Bermuda or Zoysia grass to match existing (ninety-five percent pure), secured from sources where the soil is fertile and has been fumigated.

B. The sod shall have a healthy virile root system of dense, thickly matted roots throughout.

C. The sod shall be cut from the field so that there is a minimum of one-half inch of soil on the roots of the sod, and so that no roots show on the bottom of the soil.

D. Sod shall be dense, with the grass having been mowed to 1 inch height before lifting from field.

E. Sod shall be in a vigorous condition, dark green in color, free of disease and harmful insects.

F. The contractor shall not use sod from areas where the grass is thinned out, nor where the grass roots have been dried out by exposure to the air and sun to such an extent as to damage its ability to grow when transplanted.

G. The sod shall be free from obnoxious weeds or other grasses and shall not contain any matter deleterious to its growth or which might affect its subsistence or hardiness when transplanted.

H. Unless the area has been closely pastured, it shall be closely mowed and raked to remove all weeds and long-standing stems.

I. Care shall be taken at all times to retain the native soil on the roots of the sod during the process of excavation, hauling and planting.

J. Sod material shall be kept moist from the time it is dug, until planted.

K. When so directed by the Engineer, the sod existing at the source shall be watered to the extent required, prior to excavating.

L. Do not stack sod for more than 36 hours between the time of cutting and the time of installation.

M. The Engineer reserves the right to reject any sod deemed unacceptable for installation.

N. All planting shall be done between the average date of the last freeze in the spring and six weeks prior to the average date for the first freeze in the fall, according to the U.S. Weather Bureau.

PART 3 - EXECUTION

3.01 PREPARATION

A. Loosen subgrade to a minimum depth of 4 inches; remove stones, sticks, existing grass, vegetation, and other extraneous materials.
   1. At newly graded subgrades, spread planting soil mix to a depth of 6 inches, but not less than required to meet finish grades.
   2. At unchanged grades, apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 4 inches of soil. Till soil to a homogeneous mixture of fine texture.

B. Grade lawn areas to a smooth, even surface with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades. Moisten before planting.

3.02 PLANTING

A. Sodding: Lay sod within 24 hours of harvesting. Lay sod with tightly fitted joints, offsetting joints in adjacent courses. Tamp and roll lightly. Fill minor cracks between pieces of sod with soil or sand. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples. Saturate sod with fine water spray within two hours of planting. During first week, water daily.

3.03 MAINTENANCE

A. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.

B. Mow lawn as soon as top growth is tall enough to cut. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet.

END OF SECTION 32 92 00

SECTION 33 05 13 – MANHOLES AND STRUCTURES

PART 1 - GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:
   1. American Society for Testing and Materials (ASTM):
      a. ASTM A48 - Standard Specification for Gray Iron Castings.
      b. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
      c. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
      d. ASTM C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
      e. ASTM C857 - Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures.
      f. ASTM C890 - Standard Practice for Minimum Structural Design Loading for Monolithic or Section Precast Concrete Water and Wastewater Structures.
      g. ASTM C891 - Standard Practice for Installation of Underground Precast Concrete Utility Structures.
      h. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
      i. ASTM C923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.
      j. ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants.

1.02 SECTION REQUIREMENTS

A. Submittals:
   1. Product Data: For each type of product indicated.
   2. Shop Drawings:
      a. Precast Manholes: Details of construction.
      b. Precast Base, Cones, and Top Slab Sections: Details of construction.
      c. Manholes Over Existing Piping: Plans and schedule for diverting flow.
      d. Watertight Riser Connection Brackets: Details of construction.
   3. Quality Control Submittals:
      a. Precast Manhole Sections: Manufacturer's results of tests performed on representative sections to be furnished.
      b. Certified load test data for precast manhole steps.
      c. Contractor’s plan for diversion of flow during installation of manhole over existing piping.

PART 2 - PRODUCTS

2.01 UTILITY STRUCTURES

A. Precast Concrete Manholes: ASTM C 478, precast, reinforced concrete, with provision for sealant joints.
   1. Diameter: 48 inches minimum unless otherwise indicated.

2. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
3. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section; with separate base slab or base section with integral floor. Base shall be 12-inch minimum for structure over 10 feet deep.
4. Riser Sections: 4-inch minimum thickness, and of length to provide depth indicated.
5. Top Section: Concentric-cone type; with top of cone of size that matches grade rings.
6. Admixture: All manholes shall have Xypex C 1000 Red or Penetron Red Admixture.
7. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
8. Joint Wrap: 12-inch wide CCI WrapidSeal with Canusa G Primer.
9. Resilient Pipe Connectors: ASTM C 923, cast or fitted into manhole walls, for each pipe connection.
    a. "A-LOK Premium" flexible connectors as manufactured by A-Lok Products, Inc., Tullytown, Pennsylvania 19007.
    b. Kor-N-Seal S106 or S206 flexible connectors as manufactured by Trelleborg.
10. Steps: Individual FRP steps wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 16-inch intervals.
11. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match diameter of manhole frame and cover.
12. Manhole Frames and Covers: Ferrous; 24-inch ID by 7- to 9-inch riser with 4-inch-minimum width flange and 26-inch- diameter cover. Include Madison Utilities logo design with lettering cast into cover.
    a. Material: ASTM A 536, Grade 60-40-18 ductile iron or ASTM A 48, Class 35B gray iron unless otherwise indicated.
    b. All manholes not surrounded by pavement shall have John Bouchard (Neenah Foundry) 24” Cam-Lift swing away lids (Product Number R-1642-CL) with the Madison Utilities logo.

## PART 3 - EXECUTION

### 3.01 GENERAL

A. Remove and keep all water clear from the excavation during construction and testing operations.

B. Place imported pipe base material on undisturbed earth; thoroughly compact with a mechanical vibrating or power tamper.

### 3.02 INSTALLATION OF PRECAST MANHOLES

A. Concrete Base:
    1. Place on compacted imported base material.
    2. Properly locate, ensure firm bearing throughout, and plumb first section.

B. Sections:
    1. Thoroughly clean ends of sections to be joined.
    2. Thoroughly wet joint with water prior to placing mortar.
    3. Locate precast steps in line with each other to provide a continuous vertical ladder.

C. Preformed Plastic Gaskets (In lieu of mortar joints):

1. Carefully inspect precast manhole sections to be joined.
2. Do not use sections with chips or cracks in the tongue.
3. Use only pipe primer furnished by gasket manufacturer.
4. Install gasket material in accordance with manufacturer's instructions.
5. Completed Manholes shall be rigid and watertight.

D. Rubber Gasketed Joints: Install in accordance with manufacturer's instructions.

E. Extensions:
1. Provide on manholes in streets or other locations where a subsequent change in existing grade may be likely.
2. Install to height not exceeding 12 inches.
3. Lay grade rings in mortar with sides plumb and tops level.
4. Seal joints with mortar as specified for sections, and make watertight.

3.03 MANHOLE INVERT

A. Construct with smooth transitions to ensure an unobstructed flow through manhole. Remove sharp edges or rough sections which tend to obstruct flow.

B. Where full section of pipe is laid through manhole, break out top section as shown and cover exposed edge of pipe completely with mortar. Trowel mortar surfaces smooth.

3.04 MANHOLE FRAMES AND COVERS

A. Set frames in bed of mortar with mortar carried over flange.

B. Set tops of covers flush with surface of adjoining pavement or ground surface, unless otherwise shown or directed.

3.05 WATERTIGHT MANHOLES

A. Install frame fasteners and riser connection brackets at locations shown on the Drawings. Submit design details of brackets to Engineer for approval.

3.06 MANHOLE PIPING

A. Flexible Joints:
1. Provide in all pipe not more than 1-1/2 feet from manhole walls.
2. Where the last joint of pipe is between 1 1/2 and 6 feet from manhole wall, provide a flexible joint in the manhole wall.

3.07 CONNECTIONS TO EXISTING MANHOLES

A. Core drill neat hole in manhole.

B. Clean all surfaces and apply a bonding agent.

C. Regrout to provide smooth flow into and through manholes.

D. Provide diversion facilities and perform work necessary to maintain flow during connection.

## 3.08 FIELD QUALITY CONTROL

A. Hydrostatic Testing:
   1. When, in Engineer's opinion, the groundwater table is too low to permit visual detection of infiltration leaks, hydrostatically test all project manholes.
   2. Procedure: Plug inlets and outlets and fill manhole with water to height determined by Engineer.
   3. A manhole may be filled 24 hours prior to time of testing, if desired, to permit normal absorption into the pipe walls to take place.
   4. Leakage in each sanitary sewer manhole shall not exceed 0.1 gallon per hour per foot of head above the invert.
   5. Leakage is not permitted in primary sludge manhole.
   6. Repair manholes that do not meet the leakage test, or do not meet specified requirements from visual inspection.

B. Testing Cast-In-Place Manhole Steps:
   1. Test each step for a horizontal pullout load of 400 pounds with the load applied over a width of 3-1/2 inches and centered on the rung.
   2. Apply the load at a uniform rate until the required test load is reached.
   3. Provide suitable hydraulic jacks and gauges to perform the test.
   4. Steps will be considered acceptable if they remain solidly embedded after application of the test load and if no cracking or fracture of the step nor spalling of the concrete, masonry, or mortar is evident.
   5. Replace, or reset and retest, steps failing to withstand required load.

C. Precast Concrete Finish
   1. Smooth Form Finish: For interior, non-architectural formed concrete surfaces or pits, wetwells, pipe vaults, etc. exposed to view or to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, painting, or other similar system. This is an as-cast concrete surface obtained with selected form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch defective areas with fins and other projections completely removed and smoothed. Fill all holes and seams with grout.

END OF SECTION 33 05 13

SECTION 40 23 50 - DUCTILE IRON PIPE AND ACCESSORIES

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Ductile iron pipe for water and other liquids shall be furnished in the sizes, classes, grades, or nominal thickness and joint types as specified herein or indicated on the contract drawings.

B. It shall be the responsibility of the CONTRACTOR to furnish and install all ductile iron piping systems specified herein and as shown on the contract drawings. Each system shall be installed complete with all applicable fittings, hangers, supports, anchors, expansion joints, flexible connections, valves, wall castings, sleeves, and accessories to provide a functional system as specified.

C. The CONTRACTOR shall be responsible for all insulation, lining and coating, piping identification, testing, cleaning, disinfecting, excavation, backfill and/or encasement specified herein or as shown on the contract drawings.

D. The CONTRACTOR shall furnish all tools, equipment, materials, and supplies and shall perform all labor necessary to complete installation of ductile iron pipe as shown on the contract drawings and specified herein.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Comply with the reference specifications of the GENERAL REQUIREMENTS.

B. Commercial Standards

1.03 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall submit complete shop drawings for approval in accordance with SUBMITTALS of the GENERAL REQUIREMENTS and as specified herein.

B. Shop drawings shall include all ductile iron pipe, fittings, gaskets, couplers, hangers, supports, wall castings, sleeves, and all required appurtenances indicated on the contract drawings or as specified herein necessary to provide a complete, operable piping system as specified.

C. The CONTRACTOR shall submit for review and approval complete piping lay-out drawings showing piping, fittings, couplers, hangers, supports, wall castings, sleeves, and all required appurtenances indicated on the contract drawings or as specified herein necessary to provide a complete, operable piping system as specified. Lay-out drawings shall indicate any and all interfaces with other systems being installed which may cause interference with the piping system being installed.

D. It is the responsibility of the CONTRACTOR to coordinate all work being performed and review all shop drawings to insure that no unnecessary interferences exist.

E. The CONTRACTOR shall submit as part of the shop drawings for ductile iron piping a statement from the pipe manufacturer certifying that all pipe is being fabricated per the requirements of these specifications.

1.04 QUALITY ASSURANCE

A. The CONTRACTOR shall comply with SAMPLING, TESTING, AND FABRICATION INSPECTION of the General Requirements, as required by the INSPECTOR.

B. Inspection of ductile iron pipe manufacturing, grooving, lining and coating shall be at the discretion of the INSPECTOR.

C. All wall castings shall be shop inspected.

D. The CONTRACTOR shall be responsible for providing access to manufacturing and/or fabricating facilities at all times when so requested by the INSPECTOR.

E. Manufacturer shall perform Notched Charpy impact tests on at least one sample machined from the pipe wall during each hour to assure the desired toughness of the pipe.

F. Manufacturer shall perform Hydrostatic testing on pipe in conformance with AWWA C151.

G. Each pipe shall have clearly marked on each piece the words "DUCTILE IRON", the weight, class (nominal thickness) and the casting date.

H. Each piece of grooved end pipe shall have the groove type (flexible or rigid) clearly marked on each end of the pipe.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Ductile Iron Pipe:
   1. American
   2. US Pipe

2.02 GENERAL REQUIREMENTS

A. All pipe and fittings shall be carefully examined for cracks and other defects prior to shipment. All defective pipe and fittings shall be rejected and replaced.

B. All pipes and equipment shall be supported in accordance with the details in the Plans and requirements of these specifications.

2.03 DUCTILE IRON PIPE AND FITTINGS

A. General: Ductile iron pipe shall meet AWWA and ANSI Specifications C-150, C-151 and A 21.50, A 21.51, respectively. In general, ductile iron pipe shall be furnished with push-on joints for buried applications and flanged joints for exposed, above-grade applications, unless shown otherwise on the Drawings. Restrained joint pipe shall generally be required in critical buried applications such as highway crossings, creek crossings, railroad crossings, and in other locations as identified on the Drawings. Unless indicated in the Plans to be restrained joint, buried fittings shall be mechanical joint.

B. Thickness: Class of ductile iron pipe shall be as noted in the Plans. If not indicated minimum class shall be as follows:

1. Gravity (Sewer) Class 350 (4”-12”), Class 250 (> 12”)
2. Thickness shall comply with ANSI/AWWA A21.50/C150 for minimum pipe wall thickness for threaded flanges. Grooved couplings are available through 24 inch. Larger sizes require cast-on or threaded-on shoulders.

C. Fittings: Cast or ductile iron fittings shall meet AWWA Specifications C-153/A21.53. Fittings, unless indicated otherwise, shall be Class 250. Coating and lining shall match piping requirements as outlined above. Flanges shall be 125 pounds, or equal to those required for connections to equipment unless specified otherwise. Ductile iron pipe with mechanical or push-on joints shall conform to the requirements of ANSI A21.11 (AWWA C111). Ductile iron pipe with flanged joints shall conform to the requirements of ANSI A21.15. Flanges shall be ductile iron and shall conform to the properties specified for ductile iron fittings in ANSI A21.10.

D. Bolting: Bolting shall conform to Table 10.14 of ANSI A21.10/AWWA C110 or ANSI A21.15/AWWA C115 as applicable. Bolts for use with flat ring type gaskets between gray iron flanges shall conform to the requirements of ASTM A307-84, Grade B, hex head; and nuts shall be hex type of same grade and finish as the bolts. Bolts for use with flat full face type gaskets between either gray iron flanges or ductile iron flanges shall conform to the requirements of ASTM A449-84a, Type 1 hex head; and nuts shall be hex type of same grade and finish as the bolts. Bolts shall conform to the requirements of ANSI B18.2.1, and nuts shall conform to the requirements of ANSI B18.2.2.

E. Gaskets: Gaskets for flanged, mechanical joint restrained joint, and push-on ductile iron pipe shall meet the requirements of ANSI/AWWA Specification ANSI A21.11/AWWA C111, latest revision. Unless indicated otherwise, gasket materials for various service conditions shall be as follows:
1. Wastewater Service – SBR (Synthetic Rubber)

F. Lining: All ductile iron pipe and fittings shall be furnished with interior lining. The types of lining required for the various conditions of service are listed herein below.
1. Wastewater service – Cement lining per above or ceramic epoxy as noted in the Plans.

G. Coating: All buried ductile iron pipe shall, unless indicated otherwise, be tar coated outside. Pipe and fittings to be installed in buildings, galleries, basins, other locations where such pipe and fittings will be permanently "exposed" shall have an exterior coat of rust inhibitive primer. Wall pipes, sleeves, fittings, etc., to be installed through concrete walls shall be furnished bare or the exterior coatings removed before installing.

H. Couplings for use with grooved end joints, only where specifically called for in the Plans, shall be ductile iron in accordance with ASTM 536, Grade 65-45-12. Gaskets shall be the center leg design manufactured of a nitrile compound. Bolts shall be track head design and manufactured in accordance with ASTM A-183, minimum tensile 110,000 psi. Couplings shall be Vitaulic or equivalent.

## PART 3 - EXECUTION

### 3.01 HANDLING

A. Pipe, fittings and accessories shall be handled in a manner that will insure installation in sound, undamaged condition.

B. Pipe and fittings with cement mortar or glass lining shall be handled with rubber covered hooks or other type of equipment to prevent damage to the cement lining.

C. Bare fork lift arms, hooks, or chains shall not be inserted into open ends.

D. Pipe and fittings in which the lining has been damaged shall be immediately removed from the job site and replaced.

3.02 STORAGE

A. All pipe and fittings shall be stored off the ground.

B. Pipe ends shall be covered to prevent foreign matter from entering the pipe during storage.

C. Pipe shall be stacked using suitable lumber between rows to prevent damage to pipe.

D. Any pipe that becomes damaged or unidentifiable due to improper storage shall be rejected and immediately removed from the job site.

3.03 REPAIR OF CEMENT MORTAR LINING

A. When approved and witnessed by the INSPECTOR, small and readily accessible damaged areas of cement mortar lining may be repaired in conformance with ANSI/AWWA C104/A21.4 and the following:
   1. Cut out the damaged lining to the metal, with square edges.
   2. Thoroughly wet the cut out area and adjoining lining.
   3. With the damaged area cleaned and the adjoining lining wet, spread the mortar evenly over the area to be patched.
   4. After the lining patch has become firm and adheres well to the surface, finish it with a wet 3" or 4" paint brush or similar soft bristle brush.
   5. The repaired lining shall be kept moist by tying canvas wet burlap over the ends of the pipe or fitting for 24 hours
   6. After the lining patch is dry and hard, the asphaltic coating shall be replaced using approved coating material.

B. Repair mortar shall be in conformance with ANSI/AWWA C104/A21.4 and the following formula:
   1. Cement Mortar mix by volume:
      a. 3 parts Portland Cement
      b. 2 parts clean sand
      c. Necessary clean water for 5" to 8" slump
   2. Sand shall be clean, free of clay, and screened through a No. 20 screen.

3.04 CUTTING PIPE

A. Cutting of pipe shall be done in a neat manner, without damage to the pipe or the lining.

B. Cuts shall be smooth, straight, and at right angles to the pipe axis.

C. Pipe shall be cut using a portable guillotine saw, abrasive wheel "cut-off" saw, or milling cutter only. Use of gas torches for cutting pipe will not be permitted.

D. Field cut holes for saddles shall be with mechanical cutters. Gas torch cutting will not be permitted.

E. After cutting, the end of the pipe shall be dressed with a file or power grinder to remove all roughness and sharp edges.

F. All damaged or removed cement mortar lining shall be repaired in accordance with Section 3.03 of these specifications.

3.05 CLEANING

A. The interior of all pipe and fittings shall be thoroughly cleaned of all foreign matter prior to installation, and shall be kept clean until the work has been accepted.

B. Before jointing, all joint contact surfaces shall be wire brushed, wiped clean, and kept clean until jointing is completed.

C. Flange faces shall be wire brushed and cleaned to remove all oil, grease, loose primer, mill scale or any other foreign matter which could affect the proper seating of the gasket.

D. When pipe installation is stopped, precautions shall be taken to prevent foreign material from entering the pipe.

E. Prior to testing, the entire pipeline shall be flushed until the flushing water runs clear and clean.

3.06 ALIGNMENT

A. Piping shall be installed to the lines and grades indicated on the contract drawings.

B. Pipelines intended to be straight shall be laid straight Deflections from a straight line or grade shall not exceed the values stipulated in Table 5 of ANSI/AWWA C600, unless specially designed approved bells and spigots are provided.

C. Batter boards, laser beam equipment, or survey shall be used in all pipe installations to maintain alignment and grade.

D. Batter boards, if used, shall be erected at intervals not to exceed 25 feet.

E. All pipe subgrades shall be determined and checked by survey.

F. If laser equipment is used, periodic elevation measurements shall be made with survey equipment to verify accuracy of grade or elevation. If such measurements indicate thermal deflection of the laser due to differences between ground temperature and the air temperature within the pipe, steps shall be taken to prevent further thermal deflections.

3.07 AS-BUILT DRAWINGS

A. The CONTRACTOR shall provide surveyed "as-built" drawings for all piping installed.

B. "As-built" drawings shall be provided for buried pipe installations as well as pipe installed in tunnels, galleries, inside buildings, or above ground outside.

C. For buried pipe installations, "as-built" shall include the elevation and location of pipe, valves, and all other pertinent information on the installation, as well as all existing piping or structures in the immediate area.

D. Drawings shall be forwarded to the ENGINEER for review and approval within five days after installation is completed prior to final inspection.

E. Progress payment will be withheld for all pipe installations for which "as-built" drawings are not received as specified.

3.08 LAYING PIPE

A. Buried pipe shall be protected from lateral displacement by use of the specified pipe embedment and/or encasement.

B. Under no circumstance shall pipe be laid in water.

C. All pipe will be laid on native material unless otherwise indicated on the contract drawings.

D. All pipe subgrade shall be compacted to 95% of maximum density per ASTM D698, unless otherwise indicated on the contract drawings.

E. When pipe laying is interrupted, or stopped at the end of the work shift, the open ends of pipe shall be sealed with a watertight plug to prevent water from entering the pipe.

3.09 FIELD JOINTS

A. All joints in buried locations shall be grooved-end type "flexible" joints unless otherwise indicated in these specifications or on the contract drawings.

B. All joints of piping above ground outside, in tunnels, galleries, or inside buildings shall be grooved-end type "rigid" joints unless otherwise indicated in these specifications or on the contract drawings.

C. All buried ductile iron pipe joints shall be field coated with a minimum 12 mils of an approved thixotropic coal tar coating. The coating shall cover the entire joint, including fasteners.

D. When specified or indicated on the contract drawings, bells on flush mounted wall castings and wall sleeves shall be mechanical joint type with tapped holes for tie rods or stud bolts.

E. When specified or indicated on the contract drawings, all wall castings other than flush mounted castings and wall sleeves shall be standard mechanical joint flanged joints as indicated.

3.10 MECHANICAL JOINTS

A. When specified or indicated on the contract drawings, mechanical joints shall be carefully assembled in accordance with ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11 and the manufacturer's recommendations.

B. If effective seating is not obtained, the joint shall be disassembled, thoroughly cleaned, and reassembled.

C. Bolts shall be uniformly tightened to the torque values listed in Appendix A of ANSI/AWWA C111/A21.11.

D. Over tightening of bolts to compensate for poor installation will not be permitted.

E. Holes in mechanical joints with tie rods shall be carefully aligned to permit installation of the tie rods.

F. In flange and mechanical joint pieces, holes in the mechanical joint bells and the flanges shall straddle the top (or side for vertical piping) centerline. The top centerline shall be marked on each flange and mechanical joint piece at the foundry.

## 3.11 PUSH-ON JOINTS

A. When specified or indicated on the contract drawings, joints shall be installed in conformance with ANSI/AWWA C111.A21.11 and the pipe manufacturer's instructions and recommendations for proper jointing operations.

B. All joint surfaces shall be properly lubricated with approved heavy vegetable soap solution immediately before the joint is completed.

C. Lubricant shall be suitable for use in potable water, shall be stored in closed containers, and shall be kept clean at all times.

D. Each spigot end of the pipe shall be suitably beveled to facilitate assembly.

## 3.12 MECHANICAL COUPLINGS

A. When specified or indicated on the contract drawings, mechanical couplings shall be installed in accordance with the manufacturer's recommendations and instructions.

B. A space of at least 1/4", and not more than 1", shall be left between the pipe ends.

C. All assembly bolts shall be uniformly tightened so that the coupling is free from leaks and all parts of the coupling are square and symmetrical with the pipe.

D. Following installation of the coupling, damaged areas of shop coatings of the pipe and coupling shall be repaired.

## 3.13 REDUCERS

A. Reducers, adjacent to flowmeters and pumps or in other locations as specified or indicated on the contract drawings, shall be eccentric pattern, installed with the straight side on top so that air traps are not formed. All other reducers shall be concentric pattern.

## 3.14 CONNECTIONS TO EXISTING PIPING

A. Connections between new work and existing piping shall be made using fittings submitted and approved by the ENGINEER for each separate condition encountered.

B. Each connection to existing pipe shall be made at a time and under conditions which will least impact normal plant operations, and as authorized in writing by the ENGINEER.

C. The CONTRACTOR is responsible for making provisions for cutting of existing pipe when necessary, using approved mechanical means. Flame cutting of pipe will not be allowed.

D. The CONTRACTOR is responsible for making provisions for dewatering existing lines and for disposal of water from the dewatering operation.

E. Prior to construction, the CONTRACTOR shall submit for review and approval detailed procedures for pressure testing and the making of final connections to existing lines.

F. When connecting to existing fresh and potable water lines, all new piping and fittings shall be cleaned and disinfected prior to making the connection.
   1. Provisions shall be made to prevent any cross-connection and contamination of existing lines.
   2. Trench water, mud, or other contaminants shall not be allowed to enter the lines.

G. The CONTRACTOR is responsible for disinfection and chlorination of all fresh and potable water lines after connections are made in conformance with these specifications.

END OF SECTION 40 23 50

SECTION 40 23 75 - INSTALLATION AND TESTING OF GRAVITY SEWER LINES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Requirements for:
   1. Installing gravity sewer lines.
   2. Procedures for testing for both gravity and sewer lines and manholes.
   3. Requirements for connections to existing systems.
   4. Requirements for by-pass pumping.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 INSTALLATION

A. The excavation, preparation, and backfilling of the trench shall be in accordance with the General Specifications and those Specifications covering excavation and sitework.

B. The Contractor shall be solely responsible for following the AMUCTD to determine the minimum type of traffic control devices to be used on, and along all streets, including but not limited to City Streets, County Roads, and State or Federal Highways.

C. All sewer lines are to follow accurately the grade, alignment, type, size and location shown on the Plans unless otherwise approved by the Engineer.

D. All pipe shall be inspected after unloading from the carrier. Rejected pipe shall be marked with paint and removed from the job site.

E. The Contractor shall be responsible for locating and marking with guard stakes all underground obstructions. Where these obstructions could interfere with the proposed line locations, the Contractor shall notify the Engineer and the obstruction will be exposed to determine elevations and alignment of proposed line(s) in relation to the obstruction. All damages to obstructions will repaired at the Contractor’s expense.

F. The interior of all pipe, pipe fittings, and accessories shall be kept clean and free of dirt and other foreign material. The interior of all piping shall be swabbed for cleanliness immediately before lowering into trench and shall be protected during laying to prevent earth or other foreign matter from entering the pipe. During periods when pipe laying is not in progress, open ends of laid pipe shall be protected by means of watertight plug or other means as concurred with the Engineer. All joints of pipe in trench shall be made up tightly before stopping work at the end of each work day.

G. The trench shall not be excavated any wider than necessary for safety and pipe installation. Mechanical excavation of trenches shall be stopped above the final invert grade elevation so that the pipe may be laid on a firm, undisturbed, native earth bed. The bottom of the trench shall be uniform so as to provide a firm and even bearing for the pipe. If the trench is over excavated, the disturbed material shall be replaced with #57 crushed stone bedding installed and compacted at the Contractor's expense.

H. The pipe shall have a uniform bearing. Bell holes shall be dug so that the bell will clear the ground. No blocking up with wood, rock, or other materials will be permitted. No load from adjacent spigot shall be transmitted to the bell with only the barrel of the pipe receiving bearing pressure from the trench bottom.

I. Rock and boulders shall be removed to a clearance of at least six inches from pipe, valves and fittings. If the bottom of the trench is found to be unsuitable, the Contractor will remove the material, backfill and compact with a suitable base. If unsuitable material cannot be removed, the Contractor shall construct a foundation for the pipe as directed by the Engineer. Additional compensation will be allowed for the foundation work if provided for in the Bid Documents.

J. The laying of pipe in finished trenches shall be commenced at the lowest point, with the hub ends upgrade. The length of the sewer trench to be opened or the area of the surface to be disturbed at any one time may be limited by the Engineer with regard both to expeditious construction and to the convenience of the public. The pipe laying shall be kept a safe distance from the excavation. The opening of new trenches will not be permitted when earlier trenches need backfilling or labor is needed to restore previous work.

K. All blasting operations are to be conducted with due regard for the safety of persons, property, and utility and in strict compliance with ordinances and regulations governing blasting and the use and storage of explosives. Payment for the removal of rock shall be included in the Unit Price Bid for sewers and appurtenances unless provided for as a specific bid item.

L. Trenches shall not be left open at night, weekends, holidays, or other periods when the work is unattended.

## 3.02 TRENCH BACKFILL

A. The excavation, preparation, and backfilling of the trench shall be in accordance with the General Specifications and those Specifications covering excavation and sitework.

B. All trenches and excavations shall be backfilled immediately after pipe is laid, unless otherwise agreed upon with the Engineer.

C. Under no circumstances, shall water be permitted to rise in unbackfilled trenches after the pipe has been placed.

D. Approved backfilling material shall be backfilled in layers of 8 inches maximum thickness, distributed evenly on both sides of the pipe, and shall be compacted to one foot above the top of the pipe and the remainder of the trench backfill being compacted and kept free from large rock and debris. All compaction shall be to 95 percent standard proctor density.

E. PVC pipe shall be wrapped in sand or #67 crushed stone to 12" above pipe. Use sand in lieu of crushed stone where indicated in the details and/or Drawings.

## 3.03 ALIGNMENT AND ELEVATION CONTROLS

A. Control points and bench marks will be furnished to the Contractor for control of the work.

B. The Contractor shall clear all right-of-ways or property prior to staking for sewers. It will be the Contractor's responsibility to maintain all bench marks and control points during clearing or construction.

C. The contractor shall be responsible for checking all bench marks and control points prior to construction.

D. The Contractor shall prepare cut sheets and will submit them in duplicate to the Engineer for his approval prior to construction. No sewers will be installed or paid for without approval of cut sheets by the Engineer.

E. Beginning points for construction will be designated by the Engineer.

3.04 CONNECTIONS TO EXISTING SYSTEM

A. When required for connections to existing sewer systems, sewer line plugs shall be inserted into lines at manholes upstream from proposed connections or lines to be permanently sealed. The plug shall be so designed that all or any portion of the sewage flows can be released. Flows shall be regulated as required to complete the work while preventing excessive surcharging in upstream sewer systems. Discharges shall be throttled for downstream depths of no more than one-half of the pipe diameter in order to avoid downstream damage. The Contractor shall be responsible for any damage caused by flooding during the time the sewer is plugged and shall take care to avoid any such occurrence and shall hold the Owner and Engineer harmless. Plugging or blocking sewer line(s) will not be a pay item.

B. When the sewage flow in any manhole section is so great that plugging and blocking of the sewage flow cannot diminish the sewage flow to the extent necessary to adequately perform the work, the Contractor shall perform said work during the night time or low-flow hours of the sewage cycle. Contractor shall verify by inspection and prior to bid time the amount of night work necessary.

3.05 ACCEPTANCE AND VACUUM TESTING OF MANHOLES

A. Only manholes tested after backfilling to final grade will be considered for acceptability. However, this test may also be used by the installer as a presumptive test to determine the condition of the manhole prior to backfilling.

B. All main and service line connections which the manhole accommodates shall be 100 percent completed prior to testing of the manhole. Regardless of vacuum test results, no visible leaks will be allowed in a manhole.

C. Plug all manhole entrances and exits other than the manhole top access using suitably sized pneumatic or mechanical pipeline plugs. Plugs should be inserted a minimum of 12 inches beyond manhole wall. Make sure such plugs are properly rated for the pressures required for the test. The standard test of 10 inch Hg. (mercury) is equivalent to approximately 5 PSIG (.3 bar) backpressure. Unless such plugs are mechanically restrained, it is recommended that the plugs are used with a minimum two times (2x) safety factor or a minimum of 10 PSIG (0.7 bar) backpressure usage rating. All plugs are to be braced to prevent blow-out.

D. Install the vacuum tester head assembly at the top access of manhole. Adjust the cross brace to insure that the inflatable sealing element inflates and seals against the straight top section of

the manhole or the ring assembly, if possible. (If using a "plate" style manhole tester, position the plate on the manhole ring assembly.)

E. Attach the vacuum pump assembly to the proper connection on the test head assembly. Make sure the vacuum inlet/outlet valve is in the closed position. Inflate sealing element to the recommended maximum inflation pressure. DO NOT OVER INFLATE!

F. Start the vacuum pump and allow pre-set RPM to stabilize. Open the inlet/outlet ball valve and evacuate the manhole to 10 inch Hg. (approximately negative 5 PSIG, 0.3 bar). DO NOT PRESSURIZE MANHOLE! THIS MAY RESULT IN MANHOLE DAMAGE AND/OR RESULT IN MANHOLE TEST HEAD DISLODGING FROM MANHOLE INLET!

G. Close vacuum inlet/outlet ball valve and monitor vacuum for specified test period (see Table). If vacuum does not drop in excess of one inch Hg., manhole is considered acceptable and the manhole passes the test. If manhole fails the test, complete necessary repairs and repeat test procedures until satisfactory results are obtained.

| VACUUM TEST TIMETABLE (24' MAXIMUM DEPTH) | | |
|---|---|---|
| DIAMETER | ELAPSED TIME | ADDITIONAL TIME PER 2' OVER 24' DEEP |
| 48 inches | 60 seconds | 5.0 seconds |
| 60 inches | 78 seconds | 6.5 seconds |
| 72 inches | 96 seconds | 8.0 seconds |

H. Repeat the above test procedure after backfilling manhole for final acceptance test.

I. Though the above is a general explanation of testing procedures, the Contractor is responsible for all testing procedures utilized. Testing procedures shall be modified as needed by the Contractor to ensure a safe working environment.

3.06 ACCEPTANCE AND AIR TESTING OF SEWER LINES

A. All sewer construction shall be bedded and backfilled to prevent settlement in ditches and having tight joints with gaskets fully compressed. Sewers shall be watertight within the allowable limits, and shall have no visible leaks. Any visible leaks in any section of the sewer or appurtenances shall be repaired.

B. Pipe shall be laid so when sighting from manhole to manhole in any section, the whole diameter of the pipe shall be visible throughout the section.

C. The sewer shall be blocked off in sections totaling approximately 1,000 feet determined by the manhole spacing and tested for infiltration. No infiltration in excess of 200 gallons per mile per inch of pipe diameter per 24 hours will be permitted. Any section of sewer in which the infiltration is greater than that specified above shall be either repaired or replaced until it does meet the requirements specified. The infiltration quantities specified are those permissible only when wet weather conditions prevail and the pipe is subject to a high water table. As such, the Contractor shall employ the low-pressure air testing procedure in order to determine the probable acceptability of all sewers when operating under wet weather conditions.

D. The Contractor shall furnish all the necessary equipment and be responsible for conducting all low-pressure air tests. The Contractor is responsible for any necessary repair work on sections

that do not pass the test. No sealant shall be used in any newly installed sewer without the prior approval of the Engineer. The Engineer and/or a qualified inspector shall witness all low-pressure air tests and verify the accuracy and acceptability of the equipment utilized.

E. The "low-pressure air test" shall generally conform to the procedure that is recommended for testing sanitary sewers and is as follows:
   1. The section of pipe to be tested is cleaned and plugged at each end. The end of all branches, laterals and wyes are plugged. Either mechanical or pneumatic plugs (manufactured for the intended use of air testing) may be used. All plugs are to be braced to prevent blow-out.
   2. To facilitate test verification by the inspecting Engineer, all air used shall pass through a single, above ground control panel. The above ground air control equipment shall include a shut-off valve, pressure regulating valve, pressure relief valve, input pressure gauge, and a continuous monitoring pressure gauge having a pressure range from 0 to 10 psi. The continuous monitoring gauge shall be no less than 4 inches in diameter with minimum divisions of 0.10 psi and an accuracy of ±0.04 psi. Two separate hoses shall be used to: connect the control panel to the sealed line for introducing low-pressure air, and a separate hose connection for constant monitoring of air pressure build-up in the line. If pneumatic plugs are utilized, a separate hose shall also be required to inflate the pneumatic plugs from the above ground control panel.
   3. Plug the upstream end of the line first to prevent any upstream water from collecting in the test line. This is particularly important in high groundwater situations. When plugs are being placed, the pipe adjacent to the manhole shall be visually inspected to detect any evidence of shear in the pipe due to differential settlement between the pipe and the manhole. A probable point of leakage is at the junction of the manhole and the pipe, and this fault may be covered by the pipe plug.
   4. Add air slowly to the plugged section of the sewer under test until the internal air pressure has been raised to 4.0 psig greater than the average backpressure of any groundwater. After the pre-set pressure has been obtained, allow at least two minutes for air temperature to stabilize, adding only the amount of air required to maintain the pre-set pressure, then close air supply valve.
   5. When the pressure decreases to a gauge reading equal to 3.5 psig, start stopwatch. Determine time in seconds marking drop of 1.0 psig of internal air pressure.
   6. Refer to the appropriate table below to determine minimum permissible pressure holding time in seconds for particular section of sewer being tested if it contains one pipe size. If the time shown in Table I for the designated pipe size and length elapses before the air pressure drops 1.0 psig, the section undergoing test shall have passed and shall be presumed to be free of defects. The test may be discontinued once the prescribed time has elapsed even though the 1.0 psig drop has not occurred. If the pressure drops 1.0 psig before the appropriate time shown in Table I has elapsed, the air loss rate shall be considered excessive and the section of pipe has failed the test.
   7. If the section of line to be tested includes more than one pipe size, calculate the test for each size and add the test times to arrive at the total test time for the section.
   8. The Contractor will furnish all facilities and personnel for conducting the test in the presence of the Engineer. The acceptance air test shall be made only after backfilling has been completed and compacted.
   9. If any section of sewer tested should fail to meet the test requirements set forth hereinabove, the contractor shall determine the source or sources of leakage, repair or replace all defective materials, and correct all defective workmanship.

10. Low-pressure air tests shall be repeated until the specified requirements have been met. Air testing of completed sections of sewers shall closely follow installation of the sewers in order that surface restoration work might be undertaken.

## 3.07 TELEVISION INSPECTION

A. All sewers shall be inspected in-service by video inspection.

B. When required for the field conditions encountered, video inspections shall be performed for locating sewer services or mainline connections.

C. The Contractor shall furnish the mobile television inspection studio, all television equipment and other necessary types of equipment, and all materials, electricity, labor, technicians, etc., as may be needed to perform the closed circuit television inspection of the sewers.

D. The television inspection shall be performed in one section of sewer at a time between adjacent manholes. The inspection shall be performed by pulling the television camera through the section of the sewer along the axis of the pipe. The inspection may be performed in a forward or backward direction as dictated by the line conditions at the time of the inspection.

E. The television inspection shall be conducted in such a manner that the television control technician and Engineer can determine that the sewer line is thoroughly cleaned, and so that all leaking joints, pipe breaks, line sags or dips, service lines, roots, etc., can be accurately seen and located within and along the sewer line. The travel speed of the television camera (through the sewer) shall be uniform and shall not exceed the maximum speed required by the Engineer (30 feet per minute under normal conditions). Any means of propelling the camera through the sewer which produces non-uniform rates of speed or which results in a speed faster than that specified by the Engineer will not be acceptable.

F. The operation of the television equipment shall be controlled by a skilled technician or supervisor. The television control technician shall, at all times, be able to move the television camera through the sewer in either direction without loss of quality in the video presentation on the television monitor. The television control technician shall be able to adjust the brilliance of the lighting system (built into television camera) and be able to change the focus of the television camera by remote control. The television image on the monitor shall provide a clear, stable image and picture. When requested to do so by the Engineer (or televison control technician), the television camera shall be stopped and/or backed up as required so that the Engineer (or television control technician) can view and analyze (and photograph when required) any features or conditions that appear unusual or uncommon in a good sound sewer.

G. Measurements of the exact location of any sewer line defects (i.e. breaks, sags, leaks, etc.), connections, etc. shall be at the ground level by means of a metering device. Markings on a cable, or the like, which would require interpolation for the depth of manhole, will not be allowed. Measurement meters shall be accurate to two tenths (0.2) of a foot. A measuring target (or the sealing packer in front of the television camera shall be used as an exact measurement reference point, and the meter reading shall show the exact location of this measurement reference point.

H. The television camera used for the sewer line inspection shall be specifically designed and constructed for such inspection work. Lighting for the camera shall be adequate and suitable,

and adjustable to allow a clear picture of the entire periphery of the pipe. The camera shall be waterproof and shall be operative in 100 percent humidity conditions.

I. The view seen by the television camera shall be transmitted to a monitor. The picture shall be free at all times of electrical interference and shall provide a clear stable image having the number of lines of resolution specified.

J. Digital or videotape recordings of the inspection view as it appears on the television monitor, shall be taken. The recording shall be one on which both sound and video information can be recorded. The replay of the recorded video information, when reviewed on a monitor/receiver, shall be free of electrical interference and shall produce a clear, stable image.

K. The audio portion of the composite signal shall be free of electrical interference and background noise to provide an oral report that is clear and easily understood. The audio portion of the tape report shall be recorded by the operating technician on the audio-video tapes as they are being produced and shall include the location or identification of the section being viewed, the numbers of the manholes on either end of the section, the manhole-to-manhole direction of travel, the distance traveled on the specific run, problem(s) encountered. Dubbing the audio information onto the video tract after the internal television inspection is completed will not be permitted.

L. The Contractor shall keep a daily log or record covering the television inspection work and the information acquired therefrom. This daily log or record shall contain at least the following data:
   1. Date and Time
   2. Sewer Line Location (street name and manhole-to-manhole nos., etc.)
   3. Size and Length of Line, Type of Material Line is Made of, etc.
   4. Name of Television Control Technician or Supervisor in Charge
   5. Name of Engineer or other Representatives at the Job Site
   6. Cleanliness and General Condition of Pipe
   7. Root Intrusion Location and Description
   8. Notes on Changes in Sewer Line Grades, Sewers Dips, Sags, etc.
   9. Notes on Changes in Alignment of Sewer Pipe
   10. Sewer Service Line Location, Type (Y or T), Position on the Periphery of the Pipe, Condition and/or Description of the Tap, etc.
   11. Pipe Damage and Character, Type and Location of such Damage
   12. Infiltration Points (location from manhole, location on periphery of the pipe, estimate of the amount of infiltration in gallons per minute (G.P.M.) and a description of the infiltration point (i.e. joint, break, hole, etc.)
   13. All Photographs Acquired (photo, location, etc.)
   14. All Videotape Acquired (locations, etc.)

M. One copy of the log or record shall be given to the Engineer at the completion of each day's work.

END OF SECTION 40 23 75

**TABLE I**
**MINIMUM TEST TIME FOR PVC OR D.I. PIPE**

| 1 Pipe Diameter (in.) | 2 Minimum Time (min: sec) | 3 Length for Minimum Time (ft) | 4 Time for Longer Length (sec/ft) | Specification Time for Length (L) Shown (min:sec) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 100 ft | 150 ft | 200 ft | 250 ft | 300 ft | 350 ft | 400 ft |
| 4 | 3:46 | 597 | .380 L | 3:46 | 3:46 | 3:46 | 3:46 | 3:46 | 3:46 | 3:46 |
| 6 | 5:40 | 398 | .854 L | 5:40 | 5:40 | 5:40 | 5:40 | 5:40 | 5:40 | 5:42 |
| 8 | 7:34 | 298 | 1.520 L | 7:34 | 7:34 | 7:34 | 7:34 | 7:36 | 8:52 | 10:08 |
| 10 | 9:26 | 239 | 2.374 L | 9:26 | 9:26 | 9:26 | 9:53 | 11:52 | 13:51 | 15:49 |
| 12 | 11:20 | 199 | 3.418 L | 11:20 | 11:20 | 11:24 | 14:15 | 17:05 | 19:56 | 22:47 |
| 15 | 14:10 | 159 | 5.342 L | 14:10 | 14:10 | 17:48 | 22:15 | 26:42 | 31:09 | 35:36 |
| 18 | 17:00 | 133 | 7.692 L | 17:00 | 19:13 | 25:38 | 32:03 | 38:27 | 44:52 | 51:16 |
| 21 | 19:50 | 114 | 10.47 L | 19:50 | 26:10 | 34:54 | 43:37 | 52:21 | 61:00 | 69:48 |
| 24 | 22:40 | 99 | 13.674L | 22:47 | 34:11 | 45:34 | 56:58 | 68:22 | 79:46 | 91:10 |
| 27 | 25:30 | 88 | 17.306 L | 28:51 | 43:16 | 57:41 | 72:07 | 86:32 | 100:57 | 115:22 |
| 30 | 28:20 | 80 | 21.366 L | 35:37 | 53:25 | 71:13 | 89:02 | 106:50 | 124:38 | 142:26 |

SECTION 40 46 19- POLYETHYLENE PIPE ENCASEMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section includes materials, application, and inspection of polyethylene sheet or tube encasement for buried steel and iron pipe, fittings, couplings, valves, and appurtenances.

1.02 SUBMITTALS

A. Submit submittal packages in accordance with Specification Section 01 33 00.

B. Submit manufacturer's catalog literature and product data sheets describing the physical, chemical and electrical properties of the encasement material.

PART 2 - MATERIALS

2.01 V-BIO ENHANCED POLYETHYLENE ENCASEMENT

A. The encasement shall consist of three layers of co-extruded low density polyethylene (LLDPE) tube of at least 8 mils thickness conforming to AWWA C105.
   1. Tensile Strength per ASTM D882 – 3600 psi minimum in each direction
   2. Elongation per ASTM D882 – 800% minimum in each direction
   3. Dielectric Strength per ASTM D149 – 800 volts/mil minimum
   4. Impact Resistance per ASTM D1709 – 2550 grams/force minimum
   5. Propagation Tear Resistance per ASTM D1922 – 2550 grams/force minimum
   6. Inside surface infused with anti-microbial compound to mitigate microbiologically influenced corrosion (MIC) and volatile corrosion inhibitor (VCI) to control galvanic corrosion.

2.02 PLASTIC ADHESIVE TAPE

A. Use 2-inch wide plastic adhesive tape such as Calpico Vinyl Tape, Polyken 900,

B. Scotchwrap 50, or District approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Preparation:
   1. Remove all lumps of clay, mud, cinders, etc., on pipe surface prior to installation of polyethylene encasement. Prevent soil or embedment material from becoming trapped between pipe and polyethylene.
   2. Fit polyethylene film to contour of pipe to effect a snug, but not tight; encase with minimum space between polyethylene and pipe. Provide sufficient slack in contouring to prevent stretching polyethylene where it bridges irregular surfaces, such as bell-spigot interfaces, bolted joints, or fittings, and to prevent damage to polyethylene due to backfilling operations. Secure overlaps and ends with adhesive tape to hold polyethylene encasement in place until backfilling operations are complete.

3. For installations below water table and/or in areas subject to tidal actions, seal both ends of polyethylene tube with adhesive tape at joint overlap.

B. Tubular Type (Method A):
   1. Cut polyethylene tube to length approximately 2 feet longer than pipe section. Slip tube around pipe, centering it to provide 1-foot overlap on each adjacent pipe section, and bunching it accordion-fashion lengthwise until it clears pipe ends.
   2. Lower pipe into trench and make up pipe joint with preceding section of pipe. Make shallow bell hole at joints to facilitate installation of polyethylene tube.
   3. After assembling pipe joint, make overlap of polyethylene tube. Pull bunched polyethylene from preceding length of pipe, slip it over end of new length of pipe, and secure in place. Then slip end of polyethylene from new pipe section over end of first wrap until it overlaps joint at end of preceding length of pipe. Secure overlap in place. Take up slack width at top of pipe to make a snug, but not tight, fit along barrel of pipe, securing fold at quarter points.
   4. 4. Repair cuts, tears, punctures, or other damage to polyethylene. Proceed with installation of next section of pipe in same manner.

C. Pipe-shaped Appurtenances: Cover bends, reducers, offsets, and other pipe-shaped appurtenances with polyethylene in same manner as pipe.

D. Odd-shaped Appurtenances: When it is not practical to wrap valves, tees, crosses, and other odd-shaped pieces in tube, wrap with flat sheet or split length of polyethylene tube by passing sheet under appurtenance and bringing it up around body. Make seams by bringing edges together, folding over twice, and taping down. Tape polyethylene securely in place at valve stem and other penetrations.

E. Repairs: Repair any cuts, tears, punctures, or damage to polyethylene with adhesive tape or with short length of polyethylene sheet or cut open tube, wrapped around pipe to cover damaged area, and secured in place.

F. Openings in Encasement: Provide openings for branches, service taps, blow offs, air valves, and similar appurtenances by making an X-shaped cut in polyethylene and temporarily folding back film. After appurtenance is installed, tape slack securely to appurtenance and repair cut, as well as other damaged area in polyethylene, with tape. Service taps may also be made directly through polyethylene, with any resulting damaged areas being repaired as described above.

G. Junctions between Wrapped and Unwrapped Pipe: Where polyethylene-wrapped pipe joins an adjacent pipe that is not wrapped, extend polyethylene wrap to cover adjacent pipe for distance of at least 3 feet. Secure end with circumferential turns of tape. Wrap service lines of dissimilar metals with polyethylene or suitable dielectric tape for minimum clear distance of 3 feet away from cast or ductile iron pipe.

END OF SECTION 40 46 19