

# **CONTRACT DOCUMENTS AND SPECIFICATIONS**

**FOR**

## **Wolf Run Trunk Sewers D & E**

**Wastewater System Improvements  
Division of Water Quality  
Lexington Fayette Urban County Government**

**Remedial Measures Plan ID No. WR-04, WR-05**

**LFUCG Bid No.132-2020**

**Date: 03/09/2021**

**PREPARED BY:**

**GRW Engineers, Inc.  
801 Corporate Drive  
Lexington, KY 40503  
(859) 223-3999**

**Edition: Conformance Set**

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## SECTION 00100 - ADVERTISEMENT FOR BIDS

### 1.01 INVITATION

Sealed proposals for the following work will be received by the Lexington-Fayette Urban County Government (LFUCG) via Ion Wave (<https://lexingtonky.ionwave.net>) until **2:00 pm, local time, February 4, 2021** for furnishing all labor and/or materials and performing all work as set forth in the Contract Documents prepared by and for Lexington-Fayette Urban County Government, Division of Water Quality (OWNER). All forms and Contract Documents normally filled out and attached with bid submission shall be downloaded from Lynn Imaging's Planroom and may be viewed on Ion Wave. All notary requirements are waived for this solicitation. A copy of bid bond must be included with submission. Immediately following the scheduled closing time for reception of Bids, all proposals which have been submitted in accordance with the above will be opened electronically and a bid tab sheet will be posted on Ion Wave within approximately 30 mins.

**Due to the current environment and recommendations for social distancing, LFUCG will only be accepting bids on-line through Ion Wave for this solicitation. Base bid and alternate totals (if required) should be provided on the appropriate line items tab on Ion Wave. Submissions without line item totals (if required) may be rejected and deemed non-responsive. THESE INSTRUCTIONS SUPERCEDE ALL OTHER BID SUBMISSION INSTRUCTIONS PROVIDED IN THIS PACKAGE. PLEASE SUBMIT ALL QUESTIONS VIA THE Q&A MODULE ON ION WAVE.**

### 1.02 DESCRIPTION OF WORK

The project includes providing all construction supervision, labor, materials, tools, test equipment necessary for the **Wolf Run Trunk Sewers D & E project. The proposed Wolf Run trunk D will include the replacement and installation of approximately 305 linear feet of 36-inch diameter sewer, 2,400 linear feet of 30-inch diameter sewer, 120 linear feet of 12-inch diameter sewer, and appurtenant structures. The proposed Wolf Run Trunk E will include the replacement and installation of approximately 3,250 linear feet of 27-inch gravity sewer, 1150 linear feet of 24-inch gravity sewer, 130 linear feet of 18-inch gravity sewer, 200 linear feet of 10-inch gravity sewer, 50 linear feet of 8-inch gravity sewer, and appurtenant structures.**

### 1.03 OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Plans, Specifications, and Contract Documents shall be obtained from Lynn Imaging, 328 Old Vine Street, Lexington, KY 40507, (859) 255-1021 or ([www.lynnimaging.com](http://www.lynnimaging.com)) and click on planroom for a non-refundable price of reproduction for each full set of plans and documents. Bids must be submitted through LFUCG's Ion Wave. Due to current environment and recommendations for social distancing, no Contract Documents may be examined in person.

### 1.04 METHOD OF RECEIVING BIDS

Bids will be received from Prime Contracting firms on a lump sum and line item unit price basis. Bids shall be submitted in the manner and subject to the conditions as set forth and described in the Information Available to Bidders and Bid Form.

Bids should be submitted online via Ion Wave.

## 1.05 METHOD OF AWARD

Determination of the successful Bid will be based on the lowest responsive and responsible Bidder whose qualifications indicate the award will be in the best interest of the OWNER and whose Bid/proposal complies with all the prescribed requirements. No Notice of Award will be given until the OWNER has concluded such investigation as deemed necessary to establish the responsibility, qualifications and financial ability of Bidders to do the work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not pass such investigation to the OWNER's satisfaction. The OWNER reserves the right to reject the Bid of any Bidder that is deemed to be unbalanced or front loaded. In analyzing Bids, the OWNER may take into consideration alternate and unit prices, if requested by the Bid forms.

## 1.06 BID WITHDRAWAL

No Bidder may withdraw his Bid for a period of one hundred twenty (120) calendar days after the closing date for receipt of Bids. Errors and omissions will not be cause for withdrawal of Bid without forfeit of Bid Bond.

## 1.07 BID SECURITY

All Bids shall be accompanied by a Bid Bond of not less than five percent (5%) of the amount of the Bid executed by a Surety Company authorized to do business in the Commonwealth of Kentucky and countersigned by a licensed Kentucky Resident Agent, representing the Surety Company. Certified Check or Bid Bond shall be payable to Lexington-Fayette Urban County Government. Bid Bonds are not required for bids under \$50,000. A cashier's check or irrevocable letter of credit is an acceptable form of bid security.

A scanned copy of the bid bond is acceptable and must be uploaded with the bid through Ion Wave.

## 1.08 SUBMISSION OF BIDS

Contractors shall submit their Bids via Ion Wave not later than **2:00 pm, local time, February 4, 2021**. Bids will remain sealed until **2:00 pm, local time, February 4, 2021**, the official Bid closure time. Bids received after the scheduled closing time for receipt of Bids will not be considered.

## 1.09 RIGHT TO REJECT

The OWNER reserves the right to reject any and all Bids and to waive all informalities and/or technicalities where the best interest of the OWNER may be served.

## 1.10 NOTIFICATION TO THE LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT FOR AFFIRMATIVE ACTION PLAN AND CURRENT WORKFORCE

The successful bidder must submit the following to the OWNER:

1. Affirmative Action Plan for his/her firm.
2. Current Workforce Analysis Form

Failure to submit this as required herein may result in disqualification of the Bidder from the award of the contract.

### 1.11 NOTICE CONCERNING MWDBE and Veteran Goals

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) Contract participation. Disadvantaged Business Enterprises (DBE) consists of Minority-Owned Business Enterprises (MBE) and Woman-Owned Business Enterprises (WBE).

The OWNER has set a goal that not less than ten percent (10%) of the total value of this Contract be subcontracted to Disadvantaged Business Enterprises, which is made up of MBEs and WBEs, and set a goal that not less than three percent (3%) of the total value of this Contract be subcontracted to Veteran-Owned Small Businesses. The goals for the utilization of Disadvantaged Business Enterprises and Veteran-Owned Small Businesses as subcontractors are recommended goals. Contractor(s) who fail to meet such goals will be expected to provide written explanations to the Director of the Division of Purchasing of efforts they have made to accomplish the recommended goal, and the extent to which they are successful in accomplishing the recommended goal will be a consideration in the procurement process. Depending on the funding source, other DBE goals may apply.

For assistance in locating Disadvantaged Business Enterprise and Veteran-Owned Small Businesses as Subcontractors contact:

Sherita Miller, Division of Central Purchasing  
LFUCG  
200 East Main Street, 3rd Floor, Room 338  
Lexington, Kentucky 40507  
859-258-3323  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)

### 1.12 PRE-BID MEETING AND SITE VISIT

A mandatory pre-Bid meeting will be held at **9:00 am local time, January 20, 2021** via teleconference. A direct link to the Microsoft Teams Meeting, ~~and password will be issued in a future addendum is as follows:~~

[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_NGEyODAzMWEtNjgwNi00MWOxLTg0MDetMmNmMDFiYjQzMTg3%40thread.v2/0?context=%7b%22id%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%223f98bafd-29d4-4ba0-9821-024d98a2833c%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_NGEyODAzMWEtNjgwNi00MWOxLTg0MDetMmNmMDFiYjQzMTg3%40thread.v2/0?context=%7b%22id%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%223f98bafd-29d4-4ba0-9821-024d98a2833c%22%7d) ADD 1  
(1/18/2021)

**A mandatory pre-Bid meeting will be held at 9:00 am local time, January 20, 2021 via teleconference. A direct link to the Microsoft Teams Meeting is as follows:**

**Microsoft Teams meeting**

**Join on your computer or mobile app**

[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBj%40thread.v2/0?context=%7b%22id%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBj%40thread.v2/0?context=%7b%22id%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

**Or <https://tinylink.net/1qUsq>**

**Or scan QR Code Below**



**Or call in (audio only) +1 502-208-2565, ID No.: 348 543 571# United States, Louisville** <sup>ADD 2</sup>  
(01/19/2021)

### 1.13 CONSENT DECREE REQUIREMENTS

The work to be provided through this Bid will assist the OWNER in successfully implementing the Agreement (Contract) and complying with any requirements which are related to the CONSENT DECREE entered in a case styled *United States & Commonwealth of Kentucky v. Lexington-Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Civil Action No. 5:06-cv-386-KSF (the "CONSENT DECREE"). The services provided through this Bid are hereinafter referred to as the Agreement (Contract). The primary goal of the Agreement (Contract) is to provide the owner with the technical support and/or construction services necessary to successfully meet the obligations and deadlines of the CONSENT DECREE.

The Bidder shall familiarize itself with and shall at all times comply with the CONSENT DECREE, and all federal, state and local laws, ordinances, and regulations that in any manner affect the Agreement (Contract). Time is of the essence in the performance of Agreement (Contract). Bidder is aware that the Owner is subject to penalties for non-compliance with the CONSENT DECREE deadlines.

If delays result solely by reason of acts of the Bidder, the Bidder shall be held liable for any financial penalties incurred by the Owner as a result of the delay, including but not limited to those assessed pursuant to the CONSENT DECREE. In the event the parties cannot mutually agree upon the cause(s) associated with the delays in completing project deliverables, the Bidder must immediately notify the Owner in the event of such delay, and provide the Owner a written action plan within five (5) business days on how it will attempt to resolve the delay.

In the event that Bidder's delay or other nonperformance of its obligations hereunder results in the imposition of penalties against the Owner pursuant to the CONSENT DECREE, or the Owner otherwise suffers damage as a result of such delay or nonperformance, Bidder shall be solely liable to Owner for any and all such damages, including any costs and attorney's fees.

An electronic version of the CONSENT DECREE is available on the LFUCG web page for review or to print a copy at no charge.

END OF SECTION

## **SECTION 00300 – INFORMATION AVAILABLE TO BIDDERS**

### **1.01 RECEIPT AND OPENING OF BIDS**

The Lexington-Fayette Urban County Government (herein called the OWNER) invites Bids from firms on the project described in the Advertisement for Bids. The OWNER will receive Bids online through Ion Wave (<https://lexingtonky.ionwave.net>) at the time and in the manner set forth in the Advertisement for Bids, at which time the bids will be opened electronically. The OWNER may consider informal any Bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all Bids. Any Bid may be withdrawn prior to the scheduled time for the opening of Bids or authorized postponement thereof. Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw a Bid within ninety (90) days after the actual time and date of the Bid opening, but OWNER may, in its sole discretion, release any Bid and return the Bid Security prior to that date.

The OWNER assumes no responsibility for Bids that are not submitted electronically as indicated above. Bids that are not submitted online by the stated time and date will be rejected.

### **1.02 PREPARATION OF BID**

Each Bid must be submitted on the prescribed digital Bid Form within Ion Wave. All blank spaces for the Bid prices must be filled in or the bid will be considered incomplete. Each Bid must be submitted online via Ion Wave.

### **1.03 SUBCONTRACTS**

The Bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this Contract must be acceptable to the OWNER. All proposed subcontractors must be identified on Bid Form. Prior to the award of Contract, the OWNER or the OWNER's representative will advise the Contractor of the acceptance and approval thereof or of any action necessary to be taken. Should any Subcontractor be rejected by the OWNER, the Contractor shall present a new name and/or firm to the OWNER at no change in the Contract Price.

### **1.04 QUALIFICATIONS OF BIDDER**

The OWNER may make such investigations as the OWNER deems necessary to determine the ability of the Bidder to perform the Work, and the Bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the OWNER that such Bidder is properly qualified to carry out the obligations of the Agreement (Contract) and to complete the Work contemplated therein. Conditional Bids will not be accepted.

In evaluating Bids, OWNER shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and alternatives and unit or lump sum prices, as requested. OWNER may consider maintenance requirements, performance data, and disruption or damage to private property. The contract, if awarded, will be awarded to the lowest, qualified, responsible Bidder based upon OWNER's evaluation which indicates that the award will be in the best interest of OWNER and the general public.

In the event there is any question as to the Bidder's qualifications and ability to complete the work, a final determination will be made in accordance with a fair evaluation by the OWNER of the following listed elements.

- A. If the OWNER requires filling out a detailed financial statement, the Bidder may provide its current certified financial statement(s) for the required time interval.



- B. Corporate firms are required to be registered and in good standing with the requirements and provisions of the Office of the Secretary of State, Commonwealth of Kentucky.
- C. Documents Required of Contractor - (1) A sworn statement signed by the President or owner of the Company regarding all current work in progress anywhere; (2) A document showing the percent of completion of each project and the total worth of each project; and (3) Documentation showing the percentage of the DBE employment levels on each project of the Bidder's current work force, and DBE participation levels for Subcontractors.
- D. Optional OWNER Requirements - The OWNER, at its discretion, may require the Bidder/Contractor to provide: (1) A current detailed financial statement for a period including up to 3 prior years. (2) Financial security or insurance in amounts and kinds acceptable to the OWNER to meet the financial responsibility requirements for the Contractor to indemnify the OWNER. (3) Additional information and/or DBE work force data, as well as DBE participation data.
- E. Each Bidder agrees to waive any claim it has or may have against the OWNER, the Architect/Engineer, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any Bid.

#### **1.05 BID SECURITY**

- A. Each Bid must be accompanied by a Bid bond prepared on a Form of Bid Bond and attached thereto, duly executed by the Bidder as principal and having as surety thereon a surety company approved by the OWNER, in the amount of 5% of the Bid. Such Bid bond will be returned to the unsuccessful Bidder(s) only upon written request to the Director of Central Purchasing within seven (7) days of opening of Bids. Bid bond shall be made payable to the Lexington-Fayette Urban County Government. Bid security is not required for projects under \$50,000.
- B. Bonds shall be placed with an agent licensed in Kentucky with surety authorized to do business within the state. When the premium is paid for such coverage, the full commission payable shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.
- C. Electronic, scanned Bid bond(s) will be accepted and shall be uploaded to Ion Wave prior to close of bids.

#### **1.06 LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT**

The successful Bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within ten (10) days after he has received notice of the acceptance of his Bid, shall forfeit to the OWNER, as liquidated damages for such failure or refusal, the security deposited with his Bid.

#### **1.07 TIME OF COMPLETION AND LIQUIDATED DAMAGES**

Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" from the OWNER and to fully complete the Project within the time as specified in the Contract Documents. Bidder must agree also to pay liquidated damages for each consecutive calendar day thereafter as specified in the Contract Documents.

## **1.08 EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

- A. It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site(s) to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work, (c) consider Federal, State and Local laws and regulations that may affect cost, progress, performance or furnishing of the work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Engineer of all conflicts, errors or discrepancies in the Contract Documents.
- B. Bidders should examine the requirements of the General Conditions for information pertaining to subsurface conditions, underground structures, underground facilities, and availability of lands, easements, and rights-of-way. The completeness of data, presented in the Contract Documents, pertaining to subsurface conditions, underground structures, and underground facilities for the purposes of bidding or construction is not assured. The Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface and subsurface) which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents. On request in advance, OWNER will provide access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.
- C. The submission of a Bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with every requirement of this Article; that without exception the Bid is premised upon furnishing and performing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents; and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

## **1.09 ADDENDA AND INTERPRETATIONS**

No interpretation of the meaning of the Contract Documents will be made to any Bidder orally. Every request for such interpretation should be submitted in writing via the Q&A module on Ion Wave. Addenda will be issued by the OWNER through Lynn Imaging's Planroom and posted to Ion Wave as needed. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications. Acknowledgement of the receipt of addenda must be included with all submitted Bids. Failure of any Bidder to receive any such addendum or interpretation shall not relieve such Bidder from any obligation under his Bid as submitted. All addenda so issued shall become part of the Contract Documents.

## **1.10 SECURITY FOR FAITHFUL PERFORMANCE**

- A. Simultaneously with the delivery of the executed Contracts, the Contractor shall furnish Performance, Payment, and Erosion and Sediment Control Bonds as security for the faithful performance of this Contract and for payment of all persons performing labor on the Project under this Contract and furnishing materials in connection with this Contract. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the OWNER and authorized to do business in the Commonwealth of Kentucky.
- B. The Contractor shall furnish the Warranty Bond upon completion of the Work, prior to the OWNER's release of the final payment.
- C. All bonds required by this Contract and laws of this State shall be placed with agents licensed in the State of Kentucky. When the premium is paid for such coverage's, the full commission shall be paid to such

local agent who shall not divide such commission with any person other than a duly licensed resident local agent.

- D. Contractor shall use standard Performance, Payment, Warranty, and Erosion and Sediment Control Bond forms such as documents provided with the Contract Documents or AIA form A312 (latest edition), for the Performance and Payment Bonds only.
- E. The Performance Bond shall be in the amount of one hundred percent (100%) of the Agreement (Contract) amount. The Payment Bond shall be in the amount of one hundred percent (100%) of the Agreement (Contract) amount. The Warranty Bond shall be in the amount of five percent (5%) of the final construction cost amount (based on contractor's final pay request). The Erosion and Sediment Control Performance Bond shall be in the amount of the Erosion and Sediment Control lump sum price in the Bid Form.

#### **1.11 POWER OF ATTORNEY**

Attorney-in-fact who signs Bid bonds or Contract bonds must file with each bond a certified and effectively dated copy of their Power of Attorney.

#### **1.12 TAXES AND WORKMEN'S COMPENSATION**

The Contractor and subcontractor will be required to accept liability for payment of all payroll taxes, sales and use tax, and all other taxes or deductions required by local, state or federal law, such as social security measured by wages. Each shall carry Workmen's Compensation Insurance to the full amounts as required by Statutes and shall include the cost of all foregoing items in the Bid. The Contractor will not otherwise be reimbursed or compensated for such tax payments. The Contractor is urged to ascertain at his own risk his actual tax liability in connection with the execution or performance of this Contract.

#### **1.13 LAWS AND REGULATIONS**

The Bidder's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract, the same as though herein written out in full.

#### **1.14 EROSION AND SEDIMENT CONTROL AND PERMITS**

The Contractor and Subcontractors performing Work on projects on behalf of the OWNER shall also comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in specifications herein.

#### **1.15 AFFIRMATIVE ACTION PLAN**

The successful Bidder must submit with their bid the following items to the Urban County Government (see section 00410 – Bid Form):

- A. Affirmative Action Plan of the firm
- B. Current Work Force Analysis Form
- C. Good Faith Effort Documentation to meet the MWDBE goals.
- D. List of Disadvantaged Business Enterprise Subcontractors and the Dollar Value of each Subcontract

A Work Force Analysis on the prescribed form shall be submitted for each Contract. Failure to submit these items as required herein may result in disqualification of the Bidder from award of the Contract.

All submissions should be attached to the Bidder's bid submission on Ion Wave.

#### **1.16 CONTRACT TIME**

The number of calendar days within which the Work is to be substantially completed and ready for final payment (the Contract Time) is set forth in the Bid Form and the Agreement (Contract).

#### **1.17 SUBSTITUTE OR "OR-EQUAL" ITEMS**

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by the Contractor if acceptable to the Engineer and OWNER, application for such acceptance will not be considered by the Engineer and OWNER until after the effective date of the Agreement (Contract). The procedure for submission of any such application by the Contractor and consideration by the Engineer and OWNER is set forth in the General Conditions.

#### **1.18 EQUIPMENT MANUFACTURERS LIST**

The Equipment Manufacturers identified in the Equipment Manufacturers List are the only equipment manufacturers/suppliers to be considered in the Bid. There are and will be no other equals considered during the bidding phase for these equipment items. The Contractor may select any of the listed manufacturers for each item and must circle the selected manufacturer for each item at the time of Bid submission.

The design was completed based upon the first listed manufacturer. The Contractor, at no cost to the OWNER, will be responsible for any changes to the structures, piping, electrical, instrumentation, or other to accommodate any required changes should a vendor other than the first listed be selected in the bid. This will include payment to the Engineer of Record for any required redesign.

#### **1.19 ALTERNATE BIDS**

**Bidders shall submit alternate Bids/proposals only if and when such alternate Bids/proposals have been specifically requested in an Advertisement for Bids.** If alternate Bids/proposals are requested in an Advertisement for Bids, the form of submission of such alternate Bid and the conditions under which such alternate Bids will be considered for award of a contract will be established in the Advertisement.

Any Bidder who submits a Bid incorporating an alternate proposal when alternate Bids/proposals have not been requested in the Advertisement for Bids shall have his/her Bid rejected as non-responsive.

Any Bidder who submits a Bid incorporating two (2) or more prices for an item or groups of items (unless such method of pricing is requested in the Advertisement for Bids), or which imposes conditions for acceptance other than those established in the Advertisement for Bids, shall have their Bid rejected as non-responsive.

## 1.20 SIGNING OF AGREEMENT (CONTRACT)

When OWNER gives a Notice of Award to the successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement (Contract) with all other written Contract Documents attached. Within ten days thereafter, Contractor shall sign and deliver the required number of counterparts of the Agreement (Contract) and attached documents to OWNER with the required Bonds, Certificate of Insurance, and Power of Attorney. The OWNER will deliver one fully signed counterpart to Contractor at such time as it has been signed by the Mayor.

## 1.21 ASSISTANCE TO BE OFFERED TO DISADVANTAGED BUSINESS ENTERPRISE (MWDBE) CONTRACTORS

### A. Outreach for MWDBE(s)

The Lexington-Fayette Urban County Government (LFUCG) maintains a database of MWDBE contractors and organizations. When a LFUCG construction project is advertised for bidding, notices are sent to companies registered at <https://lexingtonky.ionwave.net>. The notices describe the project and indicate the deadline for submitting bids.

If you wish to be added to the LFUCG MWDBE contractor database, please contact:

Sherita Miller, Division of Central Purchasing  
Lexington-Fayette Urban County Government  
200 East Main Street, Room 338  
Lexington, Kentucky 40507  
859-258-3323  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)

### B. Bid Bond Assistance for MWDBE(s)

For those MWDBE contractors who wish to bid on LFUCG project, bid bond assistance is available. This bid bond assistance is in the form of a "Letter of Certification" which is accepted by the LFUCG's Division of Purchasing, in lieu of a bid bond. The "Letter of Certification" must be included in the bid package when it is submitted to the Division of Purchasing electronically. The "Letter of Certification" will reference the specific project for which the bid is being submitted, and the time and date on which the bid is due. Bid bond assistance must be requested from the Lexington-Fayette Urban County Government's Division of Central Purchasing.

### C. Eligibility for Bid Bond Assistance for MWDBE(s)

In order to be eligible for any Bid bonding assistance, a MWDBE construction company must be owned or controlled at the level of 51% or more by a member or members of a minority group or females. Prior to receiving assistance, a statement providing evidence of ownership and control of the company by a member or members of a minority group or females must be signed by the Owner or corporate officer and by an attorney or accountant submitted to:

Sherita Miller, Division of Central Purchasing  
Lexington-Fayette Urban County Government  
200 East Main Street, Room 338  
Lexington, Kentucky 40507  
859-258-3323  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)

#### D. MWDBE and Veteran Subcontractors

The LFUCG will, upon request, assist prime contractors in the procurement of eligible DBE and Veteran subcontractors in an effort to achieve 10% minimum MWDBE goal and to achieve 3% minimum Veteran goal.

For a list of eligible subcontractors, please contact:

Sherita Miller, Division of Central Purchasing  
Lexington-Fayette Urban County Government  
200 East Main Street, Room 338  
Lexington, Kentucky 40507  
859-258-3323  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)

### 1.22 MWDBE PARTICIPATION GOALS

#### GENERAL

- 1) The LFUCG request all potential contractors to make a concerted effort to include Minority-Owned (MBE), Woman-Owned (WBE), Disadvantaged (DBE) Business Enterprises and Veteran-Owned Small Businesses (VOSB) as subcontractors or suppliers in their bids.
- 2) Toward that end, the LFUCG has established 10% of total procurement costs as a Goal for participation of Minority-Owned, Woman-Owned and Disadvantaged Businesses on this contract.
- 3) **It is therefore a request of each Bidder to include in its bid, the same goal (10%) for MWDBE participation and other requirements as outlined in this section.**
- 4) The LFUCG has also established a 3% of total procurement costs as a Goal for participation for of Veteran-Owned Businesses.
- 5) **It is therefore a request of each Bidder to include in its bid, the same goal (3%) for Veteran-Owned participation and other requirements as outlined in this section.**

#### B. PROCEDURES

- 1) The successful bidder will be required to report to the LFUCG, the dollar amounts of all payments submitted to Minority-Owned, Woman-Owned or Veteran-Owned subcontractors and suppliers for work done or materials purchased for this contract. (See Subcontractor Monthly Payment Report)
- 2) Replacement of a Minority-Owned, Woman-Owned or Veteran-Owned subcontractor or supplier listed in the original submittal must be requested in writing and must be accompanied by documentation of Good Faith Efforts to replace the subcontractor / supplier with another MWDBE Firm; this is subject to approval by the LFUCG. (See LFUCG MWDBE Substitution Form)
- 3) For assistance in identifying qualified, certified businesses to solicit for potential contracting opportunities, bidders may contact:
  - a) The Lexington-Fayette Urban County Government, Division of Central Purchasing (859-258-3320)
- 4) The LFUCG will make every effort to notify interested MWDBE and Veteran-Owned subcontractors and suppliers of each Bid Package, including information on the scope of work, the pre-bid meeting time and location, the bid date, and all other pertinent information regarding the project.

#### C. DEFINITIONS

- 1) A Minority-Owned Business Enterprise (MBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by persons of African American, Hispanic, Asian, Pacific Islander, American Indian or Alaskan Native Heritage.

- 2) A Woman-Owned Business Enterprise (WBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by one or more women.
- 3) A Disadvantaged Business (DBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by a person(s) that are economically and socially disadvantaged.
- 4) A Veteran-Owned Small Business (VOSB) is defined as a business which is certified as being at least 51% owned, managed and controlled by a veteran and/or a service disabled veteran.
- 5) Good Faith Efforts are efforts that, given all relevant circumstances, a bidder or proposer actively and aggressively seeking to meet the goals, can reasonably be expected to make. In evaluating good faith efforts made toward achieving the goals, whether the bidder or proposer has performed the efforts outlined in the Obligations of Bidder for Good Faith Efforts outlined in this document will be considered, along with any other relevant factors.

D. OBLIGATION OF BIDDER FOR GOOD FAITH EFFORTS

- 1) **The bidder shall make a Good Faith Effort to achieve the Participation Goal for MWDBE and Veteran-Owned subcontractors/suppliers. The failure to meet the goal shall not necessarily be cause for disqualification of the bidder; however, bidders not meeting the goal are required to furnish with their bids written documentation of their Good Faith Efforts to do so.**
- 2) Award of Contract shall be conditioned upon satisfaction of the requirements set forth herein.
- 3) The Form of Proposal includes a section entitled "MWDBE Participation Form". The applicable information must be completed and submitted as outlined below.
- 4) **Failure to submit this information as requested may be cause for rejection of bid or delay in contract award.**

E. DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS

- 1) Bidders reaching the Goal are required to submit only the MWDBE Participation Form." The form must be fully completed including names and telephone number of participating MWDBE firm(s); type of work to be performed; estimated value of the contract and value expressed as a percentage of the total Lump Sum Bid Price. The form must be signed and dated, and is to be submitted with the bid.
- 2) Bidders not reaching the Goal must submit the "MWDBE Participation Form", the "Quote Summary Form" and a written statement documenting their Good Faith Effort to do so. If bid includes no MWDBE and/or Veteran participation, bidder shall enter "None" on the subcontractor / supplier form). In addition, the bidder must submit written proof of their Good Faith Efforts to meet the Participation Goal:
  - a. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.
  - b. Included documentation of advertising in the above publications with the bidders good faith efforts package
  - c. Attended LFUCG Central Purchasing Economic Inclusion Outreach event
  - d. Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned businesses of subcontracting opportunities
  - e. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses.

- f. Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
- g. Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.
- g. Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs and/or Veteran-Owned businesses soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
- h. Followed up initial solicitations by contacting MWDBEs and Veteran-Owned Businesses to determine their level of interest.
- j. Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.
- k. Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce
- l. Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.
- m. Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
- n. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.
- o. Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal
- p. Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.
- q. Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

**Note: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.**



## 1.23 MINORITY BUSINESS ENTERPRISE PROGRAM



### MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA  
Minority Business Enterprise Liaison  
Division of Central Purchasing  
Lexington-Fayette Urban County Government  
200 East Main Street  
Lexington, KY 40507  
[smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)  
859-258-3323

**OUR MISSION:** The mission of the Minority Business Enterprise Program is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long term economic viability of Lexington-Fayette Urban County Government.

To that end the city council adopted and implemented Resolution 484-2017 – A Certified Minority, Women and Disadvantaged Business Enterprise ten percent (10%) minimum goal and a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and Certified Service Disabled Veteran – Owned Businesses for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals (a full copy is available in Central Purchasing):

***Certified Disadvantaged Business Enterprise (DBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as defined by 49 CFR subpart 26.

***Certified Minority Business Enterprise (MBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. African American, Asian American/Pacific Islander, Hispanic Islander, Native American/Native Alaskan Indian) as defined in federal law or regulation as it may be amended from time-to-time.

***Certified Women Business Enterprise (WBE)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.

***Certified Veteran-Owned Small Business (VOSB)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

***Certified Service Disabled Veteran Owned Small Business (SDVOSB)*** – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Purchasing as having the appropriate credentials to make a determination as to the status of the business.

We have compiled the list below to help you locate certified MBE, WBE and DBE certified businesses. Below is a listing of contacts for LFUCG Certified MWDBEs and Veteran-Owned Small Businesses in (<https://lexingtonky.ionwave.net>)

<b>Business</b>	<b>Contact</b>	<b>Email Address</b>	<b>Phone</b>
<b>LFUCG</b>	Sherita Miller	<a href="mailto:smiller@lexingtonky.gov">smiller@lexingtonky.gov</a>	859-258-3323
<b>Commerce Lexington – Minority Business Development</b>	Tyrone Tyra	<a href="mailto:ttyra@commercelexington.com">ttyra@commercelexington.com</a>	859-226-1625
<b>Tri-State Minority Supplier Diversity Council</b>	Susan Marston	<a href="mailto:smarston@tsmsdc.com">smarston@tsmsdc.com</a>	502-365-9762
<b>Small Business Development Council</b>	Scarlett Consalvi UK SBDC	<a href="mailto:sconsalvi@uky.edu">sconsalvi@uky.edu</a>	859-257-7666
<b>Community Ventures Corporation</b>	Phyllis Alcorn	<a href="mailto:palcorn@cvky.org">palcorn@cvky.org</a>	859-231-0054
<b>KY Transportation Cabinet (KYTC)</b>	Melvin Bynes	<a href="mailto:Melvin.bynes2@ky.gov">Melvin.bynes2@ky.gov</a>	502-564-3601
<b>KYTC Pre-Qualification</b>	Shella Eagle	<a href="mailto:Shella.Eagle@ky.gov">Shella.Eagle@ky.gov</a>	502-782-4815
<b>Ohio River Valley Women’s Business Council (WBENC)</b>	Sheila Mixon	<a href="mailto:smixon@orvwbc.org">smixon@orvwbc.org</a>	513-487-6537
<b>Kentucky MWBE Certification Program</b>	Yvette Smith, Kentucky Finance Cabinet	<a href="mailto:Yvette.Smith@ky.gov">Yvette.Smith@ky.gov</a>	502-564-8099
<b>National Women Business Owner’s Council (NWBOC)</b>	Janet Harris-Lange	<a href="mailto:janet@nwbo.org">janet@nwbo.org</a>	800-675-5066
<b>Small Business Administration</b>	Robert Coffey	<a href="mailto:robertcoffey@sba.gov">robertcoffey@sba.gov</a>	502-582-5971
<b>LaVoz de Kentucky</b>	Andres Cruz	<a href="mailto:lavozdeky@yahoo.com">lavozdeky@yahoo.com</a>	859-621-2106
<b>The Key News Journal</b>	Patrice Muhammad	<a href="mailto:production@keynewsjournal.com">production@keynewsjournal.com</a>	859-685-8488



**LFUCG MWDBE PARTICIPATION FORM**

**Bid/RFP/Quote Reference # \_\_\_\_\_**

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWDBE Company, Name, Address, Phone, Email	MBE WBE or DBE	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1.				
2.				
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

\_\_\_\_\_  
**Company**

\_\_\_\_\_  
**Company Representative**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Title**



**LFUCG MWDBE SUBSTITUTION FORM**

**Bid/RFP/Quote Reference #** \_\_\_\_\_

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to Central Purchasing for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project.

SUBSTITUTED MWDBE Company Name, Address, Phone, Email	MWDBE Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1.					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

\_\_\_\_\_  
Company

\_\_\_\_\_  
Company Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title



**MWDBE QUOTE SUMMARY FORM**

Bid/RFP/Quote Reference # \_\_\_\_\_

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

Company Name	Contact Person
Address/Phone/Email	Bid Package / Bid Date

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

\_\_\_\_\_  
Company

\_\_\_\_\_  
Company Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title



## LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # \_\_\_\_\_

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

\_\_\_\_\_ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

\_\_\_\_\_ Included documentation of advertising in the above publications with the bidders good faith efforts package

\_\_\_\_\_ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

\_\_\_\_\_ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

\_\_\_\_\_ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

\_\_\_\_\_ Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

\_\_\_\_\_ Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

\_\_\_\_\_ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

\_\_\_\_\_ Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

\_\_\_\_\_ Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

\_\_\_\_\_ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation,

even when the prime contractor may otherwise perform these work items with its own workforce

\_\_\_\_\_ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

\_\_\_\_\_ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

\_\_\_\_\_ Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

\_\_\_\_\_ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

\_\_\_\_\_ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

\_\_\_\_\_ Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE **and Veteran participation.**

**NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.**

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

\_\_\_\_\_  
**Company**

\_\_\_\_\_  
**Company Representative**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Title**



**1.24 OWNER PERMITS**

Bidder shall refer to Section 00890 regarding permits that have been obtained by the OWNER.

**1.25 GEOTECHNICAL DATA**

Bidder shall refer to Section 00320 regarding available geotechnical data for this Contract.

END OF SECTION

SECTION 00320 – GEOTECHNICAL DATA



**Consulting Services Incorporated**

*Lexington 859.309.6021 | Cincinnati 513.252.2059*  
*Geotechnical & Materials Engineering | IBC Special Inspection | Material Testing*

**SOUNDING SUMMARY TABLE**

**Wolf Run Trunk Sewer - Lexington, Kentucky**

CSI Project No. LX190199

Sounding No.	Auger Refusal Depth (ft.)	Notes
1000	6.8	
1001	5.5	
1002	5.8	
1003	6.5	
1004	8.0	
1005	9.3	
1006	12.1	
1007	7.0	
1008	6.6	
1009	6.0	
1010	5.3	Offset 9 feet to southeast due to overhead tree limb
1011	5.1	
1012	5.7	
1013	2.9	
1014	2.0	
1015	2.1	
1016	5.8	
1017	5.4	
1018	7.5	
1019	6.9	
1020	6.1	
1021	5.0	
1022	4.5	
1023	5.2	
1024	4.9	
1025	4.0	
1026	4.2	

Wolf Run Trunk Sewer Project  
 CSI Project Number LX190199

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Sounding No.	Auger Refusal Depth (ft.)	Notes
1027	5.5	
1028	5.0	
1029	5.3	
1030	6.5	
1031	6.7	
1032	9.8	
1033	8.6	
1034	10.5	Offset 2 feet to the west due tree limb
1035	9.3	
1036	10.1	
1037	1.3	Offset 7 feet to north due to vehicle parked at marked location, possible false refusal in old fill
1038	2.5	Possible false refusal in old fill
1039	8.3	Offset 2 feet to east due to possible underground utility
1040	3.5	
1041	11.7	
1042	13.1	Offset 2 feet to the east - overhead electric line
1043	13.8	
1044	8.7	
1045	9.0	
1046	6.3	Offset 8 feet to south due to overhead electric line and tree limbs
1047	4.4	Offset 6 feet to southwest due to tree limbs
1048	6.0	Offset 4 feet to south due to tree limbs
1049	11.5	Offset 5 feet to southwest due to tree limbs
1050	6.5	Offset 5 feet to southwest due to tree limbs
1051	6.2	Offset 5 feet to southwest due to tree limbs
1052	7.3	Offset 5 feet to southwest due to tree limbs
1053	6.4	Offset 5 feet to southwest due to tree limbs
1054	6.8	Offset 5 feet to west due to tree limbs
1055	6.9	Offset 5 feet to west due to tree limbs
1056	6.5	Offset 5 feet to west due to tree limbs



Sounding No.	Auger Refusal Depth (ft.)	Notes
1057	11.3	
1058	9.5	
1059	5.8	Offset 5 feet to west due to tree limbs
1060	1.1	Hand Auger - possible false refusal in old fill
1061	5.7	Hand Auger
1062	4.4	Hand Auger
1063	8.7	In Appomattox Road, offset 8 feet south due to overhead electric line
1064	0.8	Hand Auger
1065	3.9	
1066	3.2	
1067	3.7	
1068	-	Sounding Location Not Drilled Per GRW
1069	3.9	
1070	7.6	Offset 15 feet west due to trees and tree limbs
1071	4.6	
1072	4.7	
1073	4.0	
1074	4.6	
1075	4.0	
1076	4.4	
1077	4.4	
1078	3.8	
1079	7.6	
1080	8.0	Observed some gravel in auger cuttings
1081	3.5	
1082	4.0	
1083	3.6	
1084	4.1	
1085	4.6	



Sounding No.	Auger Refusal Depth (ft.)	Notes
1086	3.7	
1087	4.0	
1088	3.6	
1089	3.5	
1090	-	Not drilled - located within Wolf Run Creek (rock bottom)
1091	3.2	
1092	-	Not drilled - located within Wolf Run Creek (rock bottom)
1093	4.6	Possible thin weathered rock layer at 1.0 feet
1094	4.0	
1095	-	Not drilled - located within Wolf Run Creek (rock bottom)
1096	3.8	Offset 8 feet to southwest due to overhead electric line
1097	2.6	
1098	-	Not drilled - located within Wolf Run Creek (rock bottom)
1099	3.4	Possible weathered bedrock at 3.0 feet
1100	3.8	
1101	-	Not drilled - located within Wolf Run Creek (rock bottom)
1102	3.6	
1103	3.7	
1104	-	Not drilled - located within Wolf Run Creek (rock bottom)
1105	2.3	Offset 2 feet to west due to overhanging tree limb
1106	-	Not drilled - located within Wolf Run Creek (rock bottom)
1107	-	Not drilled - located within Wolf Run Creek (rock bottom)
1108	5.5	
1109	6.5	Offset 2 feet to west of sidewalk due to water line
1110	6.3	Offset 3 feet to south due to underground electric
1111	6.3	Offset 5 feet to southwest due to tree limbs
1112	7.3	Offset 5 feet to east
1113	7.4	Offset 5 feet to west
1114	2.5	



Sounding No.	Auger Refusal Depth (ft.)	Notes
1115	7.0	
1116	6.5	
1117	7.1	
1118	7.9	
1119	6.4	
1120	5.6	
1121	7.4	
1122	2.9	Hand sounding rod
1123	2.2	Hand sounding rod
1124	0.7	Hand sounding rod
1125	7.6	
1126	3.0	
1127	2.5	Hand sounding rod
1128	5.2	
1129	4.9	
1130	3.6	Hand Auger
1131	5.2	
1132	5.5	
1133	5.9	
1134	1.8	Hand sounding rod
1135	1.9	Hand sounding rod
1136	2.2	
1137	2.0	
1138	2.1	
1139	2.4	
1140	2.5	Offset 5 feet to southwest due to soft drainage area and tree limbs
1141	2.0	Offset 12 feet to southwest due to overhanging tree limbs
1142	1.6	
1143	1.9	



Sounding No.	Auger Refusal Depth (ft.)	Notes
1144	2.3	
1145	2.2	
1146	2.0	
1147	2.2	
1148	2.1	
1149	2.7	
1150	3.6	
1151	0.7	
1152	2.1	Possible thin weathered rock layer at 0.8 feet
1153	0.6	Hand Auger
1154	1.7	Hand Auger
1155	6.0	
1156	4.7	
1157	0.5	Hand Auger - Edge of creek
1158	4.4	Hand Auger
1159	1.4	Hand sounding rod
1160	2.5	
1161	2.8	
1162	3.6	
1163	3.2	

END OF SECTION

SECTION 00410 – BID FORM

**WOLF RUN TRUNK SEWERS D & E WASTEWATER SYSTEM IMPROVEMENTS**

Division of Water Quality  
Lexington-Fayette Urban County Government

LFUCG Bid No. 132-2020

1.01 GENERAL

Place: Lexington, Kentucky

Date: 02-04-2021

The following Bid Form shall be followed exactly in submitting a Bid for this Work.

This Bid Form Submitted by Tribute Contracting & Consultants, LLC  
2125 County Rd 1, South Point, OH 45680  
(Name and Address of Bidder)

(Hereinafter called "Bidder"), organized and existing under the laws of the State of Ohio, doing business as a corporation  
"a corporation," "a partnership", or an "individual" as applicable

To: Lexington-Fayette Urban County Government  
(Hereinafter called "Owner")  
Office of the Director of Central Purchasing  
200 East Main Street, Room 338  
Lexington, KY 40507

The Bidder, in compliance with your Advertisement for Bids for the **Wolf Run Trunk Sewers D & E Wastewater System Improvements**; Lexington, Kentucky, having examined the Contract Documents including the Plans and Specifications with related documents, having examined the site for proposed Work, and being familiar with all of the conditions and any and all addendums surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the unit prices stated hereinafter. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this Bid is a part.

The Bidder hereby agrees to commence Work under this Contract on a date to be specified in a written "Notice to Proceed" of the Owner and to substantially complete the Project within 365 days, consecutive calendar days. Bidder further agrees to pay liquidated damages, the sum of One Thousand Dollars and Zero Cents (\$1,000.00) for each consecutive day thereafter.

The Bidder hereby acknowledges receipt of the following addenda:

Addendum No. <u>1</u> Date <u>01-19-21</u> ;	Addendum No. _____ Date _____
Addendum No. <u>2</u> Date <u>01-19-21</u> ;	Addendum No. _____ Date _____
Addendum No. <u>3</u> Date <u>01-26-21</u> ;	Addendum No. _____ Date _____
Addendum No. <u>4</u> Date <u>01-28-21</u> ;	Addendum No. _____ Date _____

Insert above the number and the date of any Addendum issued and received. If none has been issued and received, the word "NONE" should be inserted.



1.02 LEGAL STATUS OF BIDDER

Bidder Tribute Contracting & Consultants, LLC

Date 02-04-2021

\*A. A corporation duly organized and doing business under the laws of the State of Ohio, for whom Todd Harrah, bearing the official title of Manager/member, whose signature is affixed to this Bid is duly authorized to execute contracts.

~~\*B. A Partnership, all of the members of which, with addresses are: (Designate general partners as such)~~

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

~~\*C. An individual, whose signature is affixed to this Bid. (Print name)~~

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\* The Bidder shall fill out the appropriate form and strike out the other two.

1.03 BIDDERS AFFIDAVIT

Comes the Affiant, Todd Harrah, and after being first duly sworn, states under penalty of perjury as follows:

A. His/her name is manager/member-Todd Harrah and he/she is the individual submitting the Bid or is the authorized representative of

Tribute Contracting & Consultants, LLC the entity submitting the Bid (hereinafter referred to as "Bidder").

B. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the Bid is submitted, prior to award of the Agreement and will maintain a "current" status in regard to those taxes and fees during the life of the Agreement.

C. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the Agreement.

D. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.

E. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of an Agreement to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.

F. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as the "Ethics Act."

G. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his/her conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught.

[Signature]  
Affiant Signature

STATE OF Kentucky

COUNTY OF Boyd

The foregoing instrument was subscribed, sworn to and acknowledged before me by

Todd Harrah on this the 4th day of February, 2021.

My Commission expires: October 2, 2021

[Signature]  
NOTARY PUBLIC, STATE AT LARGE



**1.04 BID SCHEDULE**

The Bidder agrees to perform all the Work described in the Specifications and shown on the Plans for the following proposed lump sum and/or unit prices, if applicable, which shall include the furnishing of all labor, materials, supplies, equipment and/or vehicle usage, services, all items of cost, overhead, taxes (federal, state, local), and profit for the Contractor and any Subcontractor involved, within the time set forth herein. If unit prices are applicable, Bidder must make the extensions and additions showing the total amount of Bid. In all cases of discrepancies or math errors the amount written in for the unit price of an item shall govern.

If a discrepancy between the unit price and the item total exists, the unit price prevails except:

If the unit price is illegible, omitted, or the same as the item total, item total prevails and the unit price is the quotient of the item total and the quantity.

If the unit price and the item total are illegible or are omitted, the bid may be determined nonresponsive. If a lump sum total price is illegible or is omitted, the bid may be determined nonresponsive.

For a lump sum based bid, the item total is the bid amount the Owner uses for bid comparison.

For a unit price based bid, the sum of the item totals is the bid amount the Owner uses for bid comparison.

The Bidder must indicate the base bid pipe material by circling or indicating the selected pipe material at this time of submission of the Bid.

The Owner's decision on the bid amount is final.

**BID SCHEDULE**

Item	Description	Qty	Unit	Unit Price	Item Price
1	Mobilization	1	LS		
2	Bonds and Insurance	1	LS	Refer to Bid Schedule on Ion Wave	
3	General Requirements	1	LS		
4	Demobilization	1	LS		
5	Erosion and Sediment Control and Conformance with SWPPP	1	LS		
6	6" Gravity Sewer Lateral (PVC - SDR 35, All Depths)	280	LF		
7	36" Gravity Sewer Pipe - Dig & Replace <10' (DIP, PVC, FRP, PCCP, PP)	303	LF		
8	30" Gravity Sewer Pipe - Dig & Replace <10' (DIP, PVC, FRP, PCCP, PP)	630	LF		
9	27" Gravity Sewer Pipe - Dig & Replace <10' (DIP, PVC, FRP, PCCP)	1540	LF		
10	30" Gravity Sewer Pipe - Dig & Replace ≥10' (DIP, PVC, FRP, PCCP, PP)	173	LF		
11	27" Gravity Sewer Pipe - Dig & Replace ≥10' (DIP, PVC, FRP, PCCP)	10	LF		

Refer to Bid Schedule on Ion Wave

Item	Description	Qty	Unit	Unit Price	Item Price
12	30" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP, PP)	1521	LF		
13	27" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	994	LF		
14	24" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	680	LF		
15	18" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	126	LF		
16	12" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	118	LF		
17	10" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	195	LF		
18	8" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	47	LF		
19	30" Gravity Sewer Pipe - Open Cut ≥10' (DIP, PVC, FRP, PCCP, PP)	66	LF		
20	27" Gravity Sewer Pipe - Open Cut ≥10' (DIP, PVC, FRP, PCCP)	680	LF		
21	24" Gravity Sewer Pipe - Open Cut ≥10' (DIP, PVC, FRP, PCCP)	433	LF		
22	Insert-A-Tee, All Sizes	18	EA		
23	Reconnect Existing Gravity Sewer (36")	1	EA		
24	Install 6" Cleanout Outside of Pavement	17	EA		
25	Install 6" Cleanout in Pavement	5	EA		
26	Abandon Manhole in Place (All Sizes, All Depths)	7	EA		
27	Removal of Existing Manhole (All Sizes) MH #WR2_100A; MH #WR2_101A; MH # WR3_10A, MH# WR3_10B & MH # WR3_3	5	EA		
28	Install 4' Dia. Manhole (6' Deep)	25	EA		
29	Install 5' Dia. Manhole (6' Deep)	16	EA		
30	Install 6' Dia. Manhole (6' Deep)	2	EA		
31	Install Barrel Extension for 4' Dia. Manhole	74	VLF		
32	Install Barrel Extension for 5' Dia. Manhole	63	VLF		

Refer to Bid Schedule on Don Wave

Item	Description	Qty	Unit	Unit Price	Item Price
33	Install Barrel Extension for 6' Dia. Manhole	3	VLF		
34	Internal Drop Manhole Connection (10")	1	EA		
35	Internal Drop Manhole Connection (18") (DIP, PVC)	1	EA		
36	External Drop Manhole Connection (4") (DIP, PVC)	1	EA		
37	External Drop Manhole Connection (10") (DIP, PVC)	3	EA		
38	External Drop Manhole Connection (12") (DIP, PVC)	1	EA		
39	External Drop Manhole Connection (18") (DIP, PVC)	1	EA		
40	Manhole Accessories for Locations within 100 Year Floodplain	43	EA		
41	Reconnect Existing Sewer Service to New Manhole	4	EA		
42	Reconnect Existing 21" Sewer to New Manhole	2	EA		
43	Reconnect Existing 18" Sewer to New Manhole	3	EA		
44	Reconnect Existing 12" Sewer to New Manhole	2	EA		
45	Reconnect Existing 10" Sewer to New Manhole	5	EA		
46	Reconnect Existing 8" Sewer to New Manhole	4	EA		
47	Cut and Cap Existing Sewer (4")	1			
48	Cut and Cap Existing Sewer (8")	4	EA		
49	Cut and Cap Existing Sewer (10")	3	EA		
50	Cut and Cap Existing Sewer (12")	1	EA		
51	Cut and Cap Existing Sewer (18")	3	EA		
52	Cut and Cap Existing Sewer (21")	13	EA		
53	Pipe Abandonment, Safeload (21")	312	LF		
54	Plug Manhole Inlet (10")	1	EA		

Refer to bid schedule on Ion Wave

Item	Description	Qty	Unit	Unit Price	Item Price
55	Plug Manhole Inlet (12")	1	EA		
56	Creek Crossing	3	EA		
57	Video Inspection of New Sewer Pipe	7517	LF		
58	Bituminous Concrete: Trench Construction, Street	696	SY		
59	Bituminous Concrete: Driveways	131	SY		
60	Bituminous Concrete: Private Parking Lot	3373	SY		
61	Asphalt Pavement Patch	100	SY		
62	Miscellaneous Roadway/Parking Lot Markings	1	LS		
63	Storm Sewer Removal And Replacement < 18"	20	LF		
64	Precast Concrete Headwall	1	EA		
65	Remove And Replace Curb Box Inlet	1	EA		
66	Seeding, Temporary, Extra As Directed By Engineer	50	SY		
67	Site Restoration, Method A	200	SY		
68	Site Restoration, Method B	16700	SY		
69	Site Restoration, Method C	200	SY		
70	Monolithic Concrete Curb And Gutter Removal And Replacement	60	LF		
71	Concrete Curb Removal And Replacement	95	LF		
72	Bituminous Curb Removal And Replacement	60	LF		
73	Dense Graded Aggregate – DGA, Extra As Directed By Engineer	100	TN		
74	No. 9 Crushed Stone, Extra As Directed By Engineer	100	TN		
75	No. 57 Crushed Stone, Extra As Directed By Engineer	100	TN		
76	No. 2 Crushed Stone, Extra As Directed By Engineer	100	TN		

Refer to bid schedule on lon wave

Item	Description	Qty	Unit	Unit Price	Item Price
77	Flowable (Controlled Density) Fill	150	CY		
78	Concrete Sidewalk Replacement	181	SY		
79	Portland Cement Concrete Paving: Private Parking Lots/Driveways/Aprons	8	SY		
80	Recreational Park Asphalt Sidewalk	482	SY		
81	Sidewalk Ramps, Including Detectable Warnings	5	EA		
82	4' Chain Link Fence Replacement	80	LF		
83	8' Wooden Privacy Fence Replacement	10	LF		
84	Bypass Pumping & Setup	1	LS		
85	SSO Site Cleanup	20	EA		
86	Maintenance of Traffic	1	LS		
87	Miscellaneous Site Improvements	1	Allowance	\$300,000	\$300,000
88	Connect New 10" Sewer to Existing Manhole	1	EA		
89	Clearing and Grubbing	1	LS		
<b>TOTAL BASE BID PRICE (ITEMS 1-89)</b>					

**ADDITIVE ALTERNATE NO. 1 – Option to use Cured-In-Place Pipe (CIPP) for segments of existing gravity sewer:**

Item	Description	Qty	Unit	Unit Price	Item Price
1	18" Cured-In-Place Pipe (CIPP)	1070	LF		
2	21" Cured-In-Place Pipe (CIPP)	360	LF		
<b>TOTAL ADDITIVE ALTERNATIVE PRICE (ITEMS 1-2)</b>					

**(Above Is To Be Filled In By Contractor)**

**IONWAVE SUBMITTED BID TABULATION**

				TRIBUTE CONTRACTING	
				Total Price	\$3,021,087.00
Line #	Description	QTY	UOM	Unit	Extended
1	Mobilization	1	LS	\$32,800.00	\$32,800.00
2	Bonds and Insurance	1	LS	\$150,000.00	\$150,000.00
3	General Requirements	1	LS	\$263,000.00	\$263,000.00
4	Demobilization	1	LS	<b><u>\$4,000.00</u></b>	\$4,000.00
5	Erosion and Sediment Control and Conformance with SWPPP	1	LS	<b><u>\$27,000.00</u></b>	\$27,000.00
6	6" Gravity Sewer Lateral (PVC - SDR 35, All Depths)	280	LF	\$60.00	\$16,800.00
7	36" Gravity Sewer Pipe - Dig & Replace <10' (DIP, PVC, FRP, PCCP, PP)	303	LF	<b><u>\$210.00</u></b>	\$63,630.00
8	30" Gravity Sewer Pipe - Dig & Replace <10' (DIP, PVC, FRP, PCCP, PP)	630	LF	<b><u>\$180.00</u></b>	\$113,400.00
9	27" Gravity Sewer Pipe - Dig & Replace <10' (DIP, PVC, FRP, PCCP)	1540	LF	<b><u>\$127.00</u></b>	\$195,580.00
10	30" Gravity Sewer Pipe - Dig & Replace ?10' (DIP, PVC, FRP, PCCP, PP)	173	LF	<b><u>\$190.00</u></b>	\$32,870.00
11	27" Gravity Sewer Pipe - Dig & Replace ?10' (DIP, PVC, FRP, PCCP)	10	LF	<b><u>\$160.00</u></b>	\$1,600.00
12	30" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP, PP)	1521	LF	<b><u>\$193.00</u></b>	\$293,553.00
13	27" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	994	LF	\$218.00	\$216,692.00
14	24" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	680	LF	\$194.00	\$131,920.00
15	18" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	126	LF	\$150.00	\$18,900.00
16	12" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	118	LF	\$111.00	\$13,098.00
17	10" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	195	LF	\$125.00	\$24,375.00
18	8" Gravity Sewer Pipe - Open Cut <10' (DIP, PVC, FRP, PCCP)	47	LF	\$92.00	\$4,324.00
19	30" Gravity Sewer Pipe - Open Cut ?10' (DIP, PVC, FRP, PCCP, PP)	66	LF	<b><u>\$210.00</u></b>	\$13,860.00
20	27" Gravity Sewer Pipe - Open Cut ?10' (DIP, PVC, FRP, PCCP)	680	LF	<b><u>\$220.00</u></b>	\$149,600.00
21	24" Gravity Sewer Pipe - Open Cut ?10' (DIP, PVC, FRP, PCCP)	433	LF	\$224.00	\$96,992.00
22	Insert-A-Tee, All Sizes	18	Each	\$400.00	\$7,200.00
23	Reconnect Existing Gravity Sewer (36")	1	Each	\$6,000.00	\$6,000.00
24	Install 6" Cleanout Outside of Pavement	17	Each	<b><u>\$400.00</u></b>	\$6,800.00
25	Install 6" Cleanout in Pavement	5	Each	\$650.00	\$3,250.00
26	Abandon Manhole in Place (All Sizes, All Depths)	7	Each	\$800.00	\$5,600.00
27	Removal of Existing Manhole (All Sizes) MH #WR2_100A; MH #WR2_101A; MH # WR3_10A, MH# WR3_10B & MH # WR3_3	5	Each	\$800.00	\$4,000.00
28	Install 4' Dia. Manhole (6' Deep)	25	Each	\$3,000.00	\$75,000.00
29	Install 5' Dia. Manhole (6' Deep)	16	Each	<b><u>\$4,500.00</u></b>	\$72,000.00



30	Install 6' Dia. Manhole (6' Deep)	2	Each	\$8,000.00	\$16,000.00
31	Install Barrel Extension for 4' Dia. Manhole	74	tical Linear F	\$200.00	\$14,800.00
32	Install Barrel Extension for 5' Dia. Manhole	63	tical Linear F	\$300.00	\$18,900.00
33	Install Barrel Extension for 6' Dia. Manhole	3	tical Linear F	\$400.00	\$1,200.00
34	Internal Drop Manhole Connection (4")	1	Each	<u>\$600.00</u>	\$600.00
35	Internal Drop Manhole Connection (10")	1	Each	<u>\$1,400.00</u>	\$1,400.00
36	Internal Drop Manhole Connection (18") (DIP, PVC)	1	Each	\$1,800.00	\$1,800.00
37	External Drop Manhole Connection (10") (DIP, PVC)	3	Each	\$3,000.00	\$9,000.00
38	External Drop Manhole Connection (12") (DIP, PVC)	1	Each	\$3,000.00	\$3,000.00
39	External Drop Manhole Connection (18") (DIP, PVC)	1	Each	\$4,000.00	\$4,000.00
40	Manhole Accessories for Locations within 100 Year Floodplain	43	Each	\$650.00	\$27,950.00
41	Reconnect Existing Sewer Sevice to New Manhole	4	Each	\$500.00	\$2,000.00
42	Reconnect Existing 21" Sewer to New Manhole	2	Each	\$2,000.00	\$4,000.00
43	Reconnect Existing 18" Sewer to New Manhole	3	Each	\$2,000.00	\$6,000.00
44	Reconnect Existing 12" Sewer to New Manhole	2	Each	\$1,200.00	\$2,400.00
45	Reconnect Existing 10" Sewer to New Manhole	5	Each	\$1,000.00	\$5,000.00
46	Reconnect Existing 8" Sewer to New Manhole	4	Each	\$800.00	\$3,200.00
47	Cut and Cap Existing Sewer (4")	1	Each	\$500.00	\$500.00
48	Cut and Cap Existing Sewer (8")	4	Each	\$500.00	\$2,000.00
49	Cut and Cap Existing Sewer (10")	3	Each	\$800.00	\$2,400.00
50	Cut and Cap Existing Sewer (12")	1	Each	\$800.00	\$800.00
51	Cut and Cap Existing Sewer (18")	3	Each	\$1,000.00	\$3,000.00
52	Cut and Cap Existing Sewer (21")	13	Each	\$1,200.00	\$15,600.00
53	Pipe Abandonment, Safeload (21")	312	LF	\$60.00	\$18,720.00
54	Plug Manhole Inlet (10")	1	Each	\$600.00	\$600.00
55	Plug Manhole Inlet (12")	1	Each	\$600.00	\$600.00
56	Creek Crossing	3	Each	\$21,700.00	\$65,100.00
57	Video Inspection of New Sewer Pipe	7517	LF	\$3.00	\$22,551.00
58	Bituminous Concrete: Trench Construction, Street	696	SY	\$80.00	\$55,680.00
59	Bituminous Concrete: Driveways	131	SY	\$90.00	\$11,790.00
60	Bituminous Concrete: Private Parking Lot	3373	SY	\$24.00	\$80,952.00
61	Asphalt Pavement Patch	100	SY	\$24.00	\$2,400.00

62	Miscellaneous Roadway/Parking Lot Markings	1	LS	\$4,000.00	\$4,000.00
63	Storm Sewer Removal And Replacement < 18"	20	LF	<u>\$100.00</u>	\$2,000.00
64	Precast Concrete Headwall	1	Each	\$2,500.00	\$2,500.00
65	Remove And Replace Curb Box Inlet	1	Each	\$1,000.00	\$1,000.00
66	Seeding, Temporary, Extra As Directed By Engineer	50	SY	\$3.00	\$150.00
67	Site Restoration, Method A	200	SY	\$3.00	\$600.00
68	Site Restoration, Method B	16700	SY	\$2.00	\$33,400.00
69	Site Restoration, Method C	200	SY	\$7.00	\$1,400.00
71	Monolithic Concrete Curb And Gutter Removal And Replacement	60	LF	\$35.00	\$2,100.00
72	Concrete Curb Removal And Replacement	95	LF	\$30.00	\$2,850.00
73	Bituminous Curb Removal And Replacement	60	LF	\$20.00	\$1,200.00
74	Dense Graded Aggregate - Dga, Extra As Directed By Engineer	100	TN	\$20.00	\$2,000.00
75	No. 9 Crushed Stone, Extra As Directed By Engineer	100	TN	\$20.00	\$2,000.00
76	No. 57 Crushed Stone, Extra As Directed By Engineer	100	TN	\$20.00	\$2,000.00
77	No. 2 Crushed Stone, Extra As Directed By Engineer	100	TN	<u>\$20.00</u>	\$2,000.00
78	Flowable (Controlled Density) Fill	150	CY	<u>\$100.00</u>	\$15,000.00
79	Concrete Sidewalk Replacement	181	SY	<u>\$60.00</u>	\$10,860.00
80	Portland Cement Concrete Paving: Private Parking Lots/Driveways/Aprons	8	SY	\$110.00	\$880.00
81	Recreational Park Asphalt Sidewalk	482	SY	\$30.00	\$14,460.00
82	Sidewalk Ramps, Including Detectable Warnings	5	Each	\$2,000.00	\$10,000.00
83	4' Chain Link Fence Replacement	80	LF	\$20.00	\$1,600.00
84	8' Wooden Privacy Fence Replacement	10	LF	<u>\$30.00</u>	\$300.00
85	Bypass Pumping & Setup	1	LS	<u>\$125,000.00</u>	\$125,000.00
86	SSO Site Cleanup	20	Each	<u>\$200.00</u>	\$4,000.00
87	Maintenance of Traffic	1	LS	<u>\$10,000.00</u>	\$10,000.00
88	Miscellaneous Site Improvements	1	LS	<u>\$300,000.00</u>	\$300,000.00
89	Connect New 10" Sewer to Existing Manhole	1	EA	\$2,000.00	\$2,000.00
90	Clearing and Grubbing	1	LS	\$20,000.00	\$20,000.00
91	ADDITIVE ALTERNATE NO. 1 - Option to use Cured-In-Place Pipe (CIPP) for segments of existing gravity sewer, Item 1 - 18"	1070	LF	\$110.00	
92	ADDITIVE ALTERNATE NO. 1 - Option to use Cured-In-Place Pipe (CIPP) for segments of existing gravity sewer, Item 2 - 21"	360	LF	\$130.00	

**TOTAL OWNER SELECTED BID AMOUNT:**

Three Million Twenty-One Thousand and Eighty-Seven Dollars (\$ 3,021,087.00 )

**(Above Is To Be Filled In By Owner)**

Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price

Respectfully Submitted,

FIRM: Tribute Contracting & Consultants, LLC

ADDRESS: 2125 County Rd 1

CITY/STATE/ZIP: South Point, OH 45680

DATE: 02-04-2021

BY:   
(must be original signature)

TITLE: Todd Harrah, Manager/member

PHONE: 740-451-1010 FAX: 740-894-3168  
(area code, number & extension)

EMAIL ADDRESS: tharrah88@yahoo.com

**OFFICIAL ADDRESS AND PHONE:**

2125 County Rd 1

South Point, OH 45680

740-451-1010

(Seal if Bid is by Corporation)



By signing this form you agree to all of the terms and associated forms.

**1.05 STATEMENT OF BIDDER'S QUALIFICATIONS**

The following statement of the Bidder's qualifications is required to be filled in, executed, and submitted with the Bid:

- A. Name of Bidder: Tribute Contracting & Consultants, LLC
- B. Permanent Place of Business: 2125 Co Rd 1, South Point, OH 45680
- C. When Organized: 11-10-2014
- D. Where Incorporated: State of Ohio
- E. Financial Condition:

If specifically requested by the Owner, the apparent low Bidder is required to submit its latest three (3) years audited financial statements to the Owner's Division of Central Purchasing within seven (7) calendar days following the Bid opening.

- F. In the event the Agreement is awarded to the undersigned, Performance, Payment, Erosion and Sediment Control, and Warranty bonds will be furnished by:

Ohio Farmers Insurance Company (Surety)

Signed: Brenda J. Kash (Representative of Surety)

- G. The following is a list of similar projects performed by the Bidder: (Attach separate sheet if necessary).

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>
<u>See Attached</u>		

- H. The Bidder has now under contract and bonded the following projects:

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>
<u>See Attached</u>		

- I. List Key Bidder Personnel who will work on this Project.

<u>NAME</u>	<u>POSITION DESCRIPTION</u>	<u>NO. OF YEARS WITH BIDDER</u>
<u>Todd Harrah</u>	<u>Project Manager</u>	<u>6</u>
<u>Brian Sanders</u>	<u>General Superintendent</u>	<u>6</u>
<u>Larry Davis</u>	<u>Project Superintendent</u>	<u>4</u>
<u>David Dick</u>	<u>Foreman</u>	<u>4</u>
<u>Aimee Harrah</u>	<u>EEO/AA Officer</u>	<u>5</u>

J. MWDBE Participation on current bonded projects under contract:

<u>SUBCONTRACTORS (LIST)</u>	<u>PROJECT (SPECIFIC TYPE)</u>	<u>MWDBE</u>	<u>% of WORK</u>
<u>Total View</u>	<u>Culloden Sewer</u>	<u>MBE</u>	<u>1%</u>
<u>Total View</u>	<u>W. Dunbar Sewer</u>	<u>MBE</u>	<u>1%</u>
<u>Total View</u>	<u>CSB Sewer</u>	<u>MBE</u>	<u>1%</u>
<u>TruTest, LLC</u>	<u>Wolf Run Sewer</u>	<u>WBE</u>	<u>1%</u>
<u>Total View</u>	<u>Huntington Sewer</u>	<u>MBE</u>	<u>1%</u>
<u>Total View</u>	<u>Elkhorn Water</u>	<u>MBE</u>	<u>1%</u>

(USE ADDITIONAL SHEETS IF NECESSARY)

- K. We acknowledge that, if we are the apparent low Bidder, we may be required to submit to the Owner within seven (7) calendar days following the Bid Opening, a sworn statement regarding all office management and field management personnel. Additionally, if requested by the Owner, we will within seven (7) days following the request submit audited financial statements and loss history for insurance claims for the three (3) most recent years (or a lesser period if stipulated by the Owner)

**1.06 LIST OF PROPOSED SUBCONTRACTORS**

The following list of proposed subcontractors is required by the Owner to be executed, completed and submitted with the Bid Form. All subcontractors are subject to approval of the Lexington-Fayette Urban County Government. Failure to submit this list completely filled out may be cause for rejection of Bid.

BRANCH OF WORK** (List each major item)	SUBCONTRACTOR	MWDBE (yes/no)	% of WORK
1. <u>Testing</u>	Name: <u>TruTest, LLC</u>	<u>yes</u>	<u>TBD.. 1%</u> <u>(unit price)</u>
	Address: <u>8202 Cadence Place</u> <u>Louisville, KY 40222</u>		
2. <u>Layout</u>	Name: <u>Vision Engineering</u>	<u>yes</u>	<u>1% (TBD)</u> <u>(unit price)</u>
	Address: <u>128 E Reynolds Rd</u> <u>Lexington, KY 40517</u>		
3. <u>Fencing</u>	Name: <u>Herb Geddes Fence Co.</u>	<u>Veteran</u>	<u>TBD.. 1%</u> <u>(unit price)</u>
	Address: <u>232 Industry Parkway</u> <u>Nicholasville, KY 40356</u>		
4. <u>CIPP Lining</u>	Name: <u>Leak Eliminators</u>	<u>NO</u>	<u>4%</u>
	Address: <u>330 Lisle Industrial Avenue</u> <u>Lexington, KY 40511</u>		
5. <u>Asphalt Overlay</u>	Name: <u>C/R Asphalt</u>	<u>NO</u>	<u>3%</u>
	Address: <u>415 Rebman Lane</u> <u>Lexington, KY 40504</u>		
6. _____	Name: _____	_____	_____
	Address: _____ _____		

\*\* Such as: Grading, bituminous paving, concrete, seeding and protection, construction staking, etc.

**1.07 AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST**

I hereby swear (or affirm) under the penalty for false swearing:

- A. That I am the Bidder (if the Bidder is an individual), a partner of the Bidder (if the Bidder is a partnership), or an officer or employee of the Bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);
- B. That the attached Bid has been arrived at by the Bidder independently, and has been submitted without collusion with, and without any agreement, understanding or planned common course of action, with any other contractor, vendor of materials, supplies, equipment or services described in the Advertisement for Bid, designed to limit independent bidding or competition;
- C. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished, with the Bid or Bids, and will not be communicated to any such person, prior to the official opening of the Bid or Bids;
- D. That the Bidder is legally entitled to enter into the contracts with the Lexington-Fayette Urban County Government, and is not in violation of any prohibited conflict of interest;
- E. (Applicable to corporation only) That as a foreign corporation, we are registered with the Secretary of State, Commonwealth of Kentucky, and authorized to do business in the State ✓ or, that as a domestic corporation, we are in good standing with the Secretary of State, Commonwealth of Kentucky. [Check the statement applicable.]
- F. This offer is for ninety (90) calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that, upon proper acceptance by the Lexington-Fayette Urban County Government of any or all items Bid above, an Agreement shall thereby be created with respect to the items accepted.
- G. That I have fully informed myself regarding the accuracy of the statements made in this statement.
- H. That I certify that Subcontractors have not and will not be awarded to any firm(s) that have been debarred from noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

Tribute Contracting & Consultants, LLC

Company



Date

02-04-21

Representative

Todd Herra  
manager/member

**1.08 STATEMENT OF EXPERIENCE**

NAME OF INDIVIDUAL: Todd Harrah

POSITION/TITLE: Project Manager

STATEMENT OF EXPERIENCE: Over 25 years of underground utility construction experience

NAME OF INDIVIDUAL: Brian Sanders

POSITION/TITLE: General Superintendent

STATEMENT OF EXPERIENCE: Over 20 years of underground utility construction experience

NAME OF INDIVIDUAL: Larry Davis

POSITION/TITLE: Project Superintendent

STATEMENT OF EXPERIENCE: Over 25 years of underground utility construction experience

NAME OF INDIVIDUAL: Aimee Harrah

POSITION/TITLE: EEO/AA - Office Manager

STATEMENT OF EXPERIENCE: Over 5 years experience

\* Include all officers, office management, Affirmative Action officials, and field management personnel. Attach separate sheets if necessary.



## 1.09 EQUAL OPPORTUNITY AGREEMENT

### The Law

- \* Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- \* Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and subcontractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- \* Section 503 of the Rehabilitation Act of 1973 States:

*The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.*

- \* Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal Contracts.
- \* Section 206 (A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

*The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.*

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors, and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause an Agreement to be canceled and the contractor may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

### Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped, and aged persons.

  
\_\_\_\_\_  
Signature

Tribute Contracting & Consultants, LLC  
Name of Business

The Entity (regardless of whether construction Contractor, non-construction Contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) *The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) *The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) *The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) *The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

#### KRS 45.610. Hiring minorities - Information required

- (1) *For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) *Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

#### KRS 45.620. Action against contractor - Hiring of minority contractor or subcontractor

- (1) *If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) *If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.*
- (3) *The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

#### KRS 45.630 Termination of existing employee not required, when

*Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.*

**KRS 45.640 Minimum skills**

*Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.*

In the case of an Agreement exceeding \$250,000, the Contractor will be required within seven (7) days following the Bid Opening to furnish evidence that its work-force in Kentucky is representative of the available work-force in the area from which it draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the Contract.

1.10 LFUCG MWDBE PARTICIPATION FORM


LFUCG Bid/RFP/Quote Reference No. 132-2020



The MWDBE and/or Veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the Work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately.

MWDBE Company, Name, Address, Phone, Email	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
TruTest, LLC 8202 Cadence Place Louisville, KY 40222 502-552-5142, Kristi Conrad trutestseals@yahoo.com	Testing	TBD (unit price)	TBD unit price
Vision Engineering 128 E Reynolds Rd Lexington, KY 40517 859-559-0516, Jihad Hallany JHallany@visionengr.com	Layout	TBD (unit price)	TBD unit price
Herb Geddes Fence Co. 232 Industry Parkway Nicholasville, KY 40356 859-885-2219	Fencing	TBD (unit price)	TBD unit price

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the Contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Tribute Contracting & Consultants, LLC  
Company   
Company Representative

02-04-2021  
Date

Todd Harrah, Manager/member  
Title

1.11 LFUCG MWDBE SUBSTITUTION FORM


LFUCG Bid/RFP/Quote Reference No. 132-2020



The substituted MWDBE and/or Veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to Central Purchasing for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project.

SUBSTITUTED MWDBE Company Name, Address, Phone, Email	MWDBE Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
		TBD			
			if low bidder awarded contract will complete & submit		

The undersigned acknowledges that any misrepresentation may result in termination of the Contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Tribute Contracting & Consultants, uc   
 Company Company Representative

07-04-2021  
 Date

Todd Harrah, manager/member  
 Title

1.12 MWDBE QUOTE SUMMARY FORM



LFUCG Bid/RFP/Quote Reference No. 13Z-2020

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project.

Company Name <u>Tribute Contracting &amp; Consultants, LLC</u>	Contact Person <u>Todd Harrah</u>
Address/Phone/Email <u>2125 County Rd 1, South Point, OH 45680</u> <u>740-451-1010</u> <u>tharrah88@yahoo.com</u>	Bid Package / Bid Date <u>Wolf Run Trunk Sewer D &amp; E</u> <u>02-04-2021</u>

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event, etc)	Total dollars (\$) Do Not Leave Blank (Attach Documentation)	DBE * AA HA AS NA Female	Veteran
<u>TruTest, LLC</u> <u>Louisville, KY</u>	<u>Kristi Conrad</u>	<u>502-552-5142</u> <u>trutestseals@yahoo.com</u>	<u>02-02-21</u>	<u>Testing</u>	<u>e mail &amp; phone</u>	<u>TBD</u> <u>unit price)</u> <u>quote attached</u>	<u>DBE</u>	<u>no</u>
<u>Vision Engineering</u>	<u>Jihad Hallany</u>	<u>859-559-0516</u> <u>Jhallany@visioneng.com</u>	<u>02-02-21</u>	<u>Layout</u>	<u>e-mail</u>	<u>TBD</u> <u>Quote Attached</u>	<u>MBE</u>	<u>no</u>
<u>Herb Geddes Fence Co</u>		<u>859-885-2215</u>	<u>02-02-21</u>	<u>Fence</u>	<u>phone</u>	<u>TBD</u> <u>\$5,100.00</u> <u>quote attached</u>	<u>Vet</u>	<u>yes</u>

\*(DBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the Contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Tribute Contracting & Consultants, LLC  
Company \_\_\_\_\_  
Todd Harrah  
Company Representative

02-04-2021  
Date

Todd Harrah, Manager/Member  
Title

1.13 LFUCG SUBCONTRACTOR MONTHLY PAYMENT REPORT

LFUCG Bid/RFP/Quote No. 132-2020



The LFUCG has a 10% goal plan adopted by city council to increase the participation of minority and women owned businesses in the procurement process. The LFUCG also has a 3% goal plan adopted by cited council to increase the participation of veteran owned businesses in the procurement process. In order to measure that goal LFUCG will track spending with MWDBE vendors on a monthly basis. By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentation may result in termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims. Please submit this form monthly to the Division of Central Purchasing/ 200 East Main Street / Room 338 / Lexington, KY 40507.

Total Contract Amount Awarded to Prime Contractor for this Project TBD

Project Name/ Contract # <u>Wolf Run Trunk Sewers D&amp;E</u>	Work Period/ From: <u>TBD</u> To: <u>TBD</u>
Company Name: <u>Tribute Contracting &amp; Consultants, LLC</u>	Address: <u>2125 Co Rd 1, South Point, OH 45680</u>
Federal Tax ID: <u>47-2371505</u>	Contact Person: <u>Todd Harrah</u>

Subcontractor Vendor ID (name, address, phone, email)	Description of Work	Total Subcontract Amount	% of Total Contract Awarded to Prime for this Project	Total Amount Paid for this Period	Purchase Order number for subcontractor work (please attach PO)	Scheduled Project Start Date	Scheduled Project End Date
<u>TBD</u>							
<u>Will be completed &amp; submitted if awarded contract</u>							

By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentations may result in the termination of the Contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

Tribute Contracting & Consultants, LLC  
Company  
Todd Harrah  
Company Representative

02-04-2021  
Date

Todd Harrah, Manager/member  
Title

**1.14 LFUCG STATEMENT OF GOOD FAITH EFFORTS**

LFUCG Bid/RFP/Quote No. 132-2020



By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBEs and/or Veterans on the project and can supply the appropriate documentation.

- Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms to participate.
- Included documentation of advertising in the above publications with the bidders good faith efforts package
- Attended LFUCG Central Purchasing Economic Inclusion Outreach event
- Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs of subcontracting opportunities
- Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms
- Requested a list of MWDBE subcontractors or suppliers from LFUCG Economic Engine and showed evidence of contacting the companies on the list(s).
- Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.
- Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
- Followed up initial solicitations by contacting MWDBEs to determine their level of interest.
- Provided the interested MWDBE firm with adequate and timely information about the plans, specifications, and requirements of the contract.
- Selected portions of the work to be performed by MWDBE firms in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE participation, even when the prime contractor may otherwise perform these work items with its own workforce
- Negotiated in good faith with interested MWDBE firms not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.
- Included documentation of quotations received from interested MWDBE firms which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
- Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE quote. Nothing



in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE goals.

- Made an effort to offer assistance to or refer interested MWDBE firms to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal
- Made efforts to expand the search for MWBE firms beyond the usual geographic boundaries.
- Other - any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE participation.

Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement. Documentation of Good Faith Efforts are to be submitted with the Bid, if the participation Goal is not met.

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Tribute Contracting & Consultants, LLC  
Company

  
Company Representative

07-04-2021  
Date

Todd Harrah, manager/member  
Title

**1.15 EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY**

It is the policy of Tribute Contracting & Consultants, LLC  
(Name of Bidder)

to assure that all applicants for employment and all employees are treated on a fair and equitable basis without regard to their race, religion, sex, color, handicap, natural origin or age.

Such action shall include employment, promotion, demotion, recruitment or recruitment advertising, layoff or termination, rates of pay and other forms of compensation, and selection for training, whether apprenticeship and/or on-the-job-training.

Furthermore, this company agrees to make special recruitment efforts to hire the protected class whenever feasible. This company also agrees to adhere to all applicable federal, state, and local laws relating to Equal Employment Opportunity for all individuals.



02-04-21

Todd Harrah  
Manager/member

**1.20 CERTIFICATION REGARDING LOBBYING**

**Certification for Contracts, Grants, Loans, and Cooperative Agreements**

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty for not less than \$10,000 and not more than \$100,000 for each such failure.

Todd Harrah, Manager/Member

Typed Name & Title of Authorized Representative

  
Signature of Authorized Representative

02-04-2021  
Date

\_\_\_\_ I am unable to certify to the above statements. My explanation is attached.

1.21 BID BOND

BID BOND

Bond Number: \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that we Tribute Contracting&Consultants, LLC  
as principal (the "Principal") and Ohio Farmers Insurance Company

hereinto called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
200 East Main Street, Third Floor  
Lexington, Kentucky 40507

as obligee (the "Obligee"), in the penal sum of Five Percent of Bid Amount dollars  
for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind  
ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by  
these presents.

WHEREAS, the Principal has submitted a bid for  
Wolf Run Trunk Sewers D&E

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal within the period specified therein,  
or, if no period be specified, within ninety (90) days after opening, and the Principal shall enter into a  
contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may  
be specified in the bidding or contract documents, or in the event of the failure of the Principal to enter  
into such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference in  
money not to exceed the penal sum hereof between the amount specified in said bid and such larger  
amount for which the Obligee may in good faith contract with another party to perform the work covered  
by said bid, then this obligation shall be null and void; otherwise to remain in full force and effect. In no  
event shall the liability hereunder exceed the penal sum thereof.

PROVIDED AND SUBJECT TO THE CONDITION PRECEDENT, that any claim by Obligee under this  
bond must be submitted in writing by registered mail, to the attention of the Surety Law Department at the  
address above, within 120 days of the date of this bond. Any suit under this bond must be instituted  
before the expiration of one (1) year from the date of this bond. If the provisions of this paragraph are void  
or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction  
of the suit shall apply.

DATED as of this 4<sup>th</sup> day of February, 2021.

WITNESS / ATTEST:

  
Principal (Secretary)  
Steven D. Whaley


Tribute Contracting&Consultants, LLC  
Principal

By:  (seal)  
Name: Todd Harrah  
Title: Manager/Member

  
Surety (Secretary)

Ohio Farmers Insurance Company  
Surety

  
KY Resident Agent  
Kyle Shrewsbury

By:  (seal)  
Name: Brenda Kash  
Title: Attorney-in-fact

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 04/04/17, FOR ANY PERSON OR PERSONS NAMED BELOW.

General Power of Attorney

POWER NO. 4750592 01

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

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies"...

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

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

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do on the premises.

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

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

Be it Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereunto affixed this 04th day of APRIL, A.D. 2017

Corporate Seals Affixed



WESTFIELD INSURANCE COMPANY WESTFIELD NATIONAL INSURANCE COMPANY OHIO FARMERS INSURANCE COMPANY

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

State of Ohio County of Medina ss

On this 04th day of APRIL, A.D., 2017, before me personally came Dennis P. Baus to me known, who, being by me duly sworn, did depose and say, that he resides in Wooster, Ohio; that he is National Surety Leader and Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies, that the seals affixed to said instrument are such corporate seals, that they were so affixed by order of the Boards of Directors of said Companies, and that he signed his name thereto by like order.

Notarial Seal Affixed



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

State of Ohio County of Medina ss

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

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this 4th day of February, A.D. 2021



Frank A. Carrino Secretary



**WESTFIELD™**

**AUTHORIZATION AND CONSENT TO THE USE OF ELECTRONIC SEAL ADDENDUM (APRIL 22, 2020)**

Due to logistical issues associated with the use of traditional seals during this COVID-19 pandemic, Westfield Insurance Company and/or Westfield National Insurance Company and/or Ohio Farmers Insurance Company (collectively the "Surety") has authorized its Attorney-in-Fact to affix the Surety's corporate seal to any bond executed on behalf of the Surety by any such Attorney-in-Fact by attaching this Addendum to said bond.

To the extent this Addendum is attached to a bond that is executed on behalf of the Surety by its Attorney-in-Facts, the Surety hereby agrees that the seal below shall be deemed affixed to said bond to the same extent as if its raised corporate seal was physically affixed to the face of the bond.



Thank you,

**Gary W. Stumper**  
National Surety Leader

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**POWER OF ATTORNEY**

**(Attach to Bid Bond)**

END OF SECTION



2125 County Rd 1, South Point, OH 45680

**Current Contracts on Hand:**

- 1) West Dunbar Sanitary Sewer Improvements Contract 1- 90% Complete**
  - a. Install 15,000LF of 6-10" Gravity Sewer & 94 MH's
  - b. Owner: West Dunbar PSD, Contact: Dr. John Fuller, 304-766-0220
  - c. Contract Amount: \$5,545,159.69
  - d. Engineer: Gosh Engineers, Contact: Kennon Chambers, 304-343-5300
  - e. Anticipated Completion: February 2021
  
- 2) Huntington 8<sup>th</sup> & 10<sup>th</sup> St Pump Stations- 30% Complete**
  - a. Install Two Stormwater Pump Stations & 800LF of 16" Force Main
  - b. Owner: Huntington Sanitary Board, Contact: Wes Leek, 304-696-4437
  - c. Contract Amount: \$1,099,410.00
  - d. Engineer: Potesta & Associates, Contact: Pat Taylor, 304-342-1400
  - e. Anticipated Completion: April 2021
  
- 3) CSB Woodward Branch Sanitary Sewer Improvements-- 40% Complete**
  - a. Install 15,000 LF of 6-18" Gravity Sewer, 109 MHs, 156 Cleanouts, Etc
  - b. Owner: Charleston Sanitary Board, Contact: Tim Haapala, 304-348-1084
  - c. Contract Amount: \$5,144,375.00
  - d. Engineer: Burgess & Niple, Contact: Craig Richards, 304-485-8541
  - e. Anticipated Completion: June 2021
  
- 4) Ashland Simpson Road Water Line Replacement – 90% Complete**
  - a. Install 3,300LF of 16" DR Water Line
  - b. Owner: City of Ashland, Contact: Steve Cole, 606-385-3332
  - c. Contract Amount: \$665,498.00
  - d. Engineer: Same as Owner
  - e. Anticipated Completion: November 2020
  
- 5) US 27/AA Highway Sanitary Sewer Improvements Riley Road- 35% Complete**
  - a. Install 6,900LF of 15-21" Gravity Sewer, 11 MH's, 11 MH Modifications
  - b. Owner: SD1, Contact: Spencer Stork, 859-578-6894
  - c. Contract Amount: \$1,527,015.52
  - d. Engineer: AECOM, Contact: Brian Shmude, 614-600-5990
  - e. Anticipated Completion: July 2021



- 6) Culloden Wastewater System Improvements Contract #1- 67% Complete**
  - a. Install 7,500LF of 6-15" Gravity Sewer, 1 Pump Station
  - b. Owner: Culloden PSD, Contact: Nathan Johnson 304-416-0576
  - c. Contract Amount: \$1,483,136.00
  - d. Engineer: Chapman Technical, Contact: Matt Tanner, 304-727-5501
  - e. Anticipated Completion: May 2021
  
- 7) Elkhorn Creek Water Project Phase II Contract 2—15% Complete**
  - a. Install 75,000LF of 2-10" Water Line
  - b. Owner: McDowell Co PSD, Contact: Mavis Brewster, 304-297-2622
  - c. Contract Amount: \$5,106,715.00
  - d. Engineer: E.L Robinson, Contact: Ray Tilly, 304-252-7473
  - e. Anticipated Completion: October 2021
  
- 8) Lexington Woods Booster Station Contract 1-2020—Under Contract**
  - a. Installation of a Booster Station
  - b. Owner: SWLCWSD, Contact: Chris Gilcher, 740-927-410
  - c. Contract Amount: \$979,394.00
  - d. Engineer: Strand Associates, Contact: Patrick Karnes, 614-835-0460
  - e. Anticipated Completion: August 2021
  
- 9) Center PSD Pineville Existing Collection System Replacement—Under Contract**
  - a. Dig & Replace 5,280LF of 8-15" Gravity Sewer
  - b. Owner: Center PSD, Contact: Bryan Alred, 304-558-2981
  - c. Contract Amount: \$2,146,150.00
  - d. Engineer: Thompson & Litton, Contact: Stacy Fowler, 304-425-9555
  - e. Anticipated Completion: December 2021
  
- 10) CSB Danner Hollow Sanitary Sewer Improvements-- Under Contract**
  - a. Install 5,000LF of 6-12" Gravity Sewer, 52 MH's
  - b. Owner: Charleston Sanitary Board, Contact: Tim Haapala, 304-348-1084
  - c. Contract Amount: \$2,279,384
  - d. Engineer: Burgess & Niple, Contact: Craig Richards, 304-485-8541
  - e. Anticipated Completion: December 2021



**2125 County Rd 1, South Point, OH 45680**

**List of Projects Completed:**

- 1) Ben Creek Water Project-** Installation of 60,000LF of 10", 6" and 2" Waterline, Booster Station, Meter Settings, 2 – PRV, Valves and Hydrants.
  - a. Contract Amount: \$3,281,274.42
  - b. Dates of Construction: 04/2015 – 01/2016
  - c. Owner: Mingo County PSD, Contact: JB Heflin, 304-235-2244)
  - d. Engineer: E.L Robinson, Contact: Mark McGettigan, 304-776-7473
  
- 2) Hinton, WV Sewer Project-** Installation of 1300LF of 8" Gravity Sewer Line, 7 Manholes, Laterals and Concrete Street Restoration.
  - a. Contract Amount: \$148,743.00
  - b. Dates of Construction: 05/2015
  - c. Owner: Hinton Sanitation Board, Contact: Cris Meadows, 304-466-3255
  - d. Engineer: Thrasher Group, Contact: Ted Hamb, 800-273-6541
  
- 3) Wilderness Water Project-** Installation of 1 Booster Station, 11,000LF of 8" and 6" Waterline, Water Meter Setting, Valves and Hydrants.
  - a. Contract Amount: \$874,506.00
  - b. Dates of Construction: 08/2015 – 06/2016
  - c. Owner: Wilderness PSD, Contact: Scott Rader, 304-872-5225
  - d. Engineer: Stafford Consultants, Contact: Ed Shutt, 304-425-9555
  
- 4) Beckley Sewer Project, Contract 11-1-** Installation of 23,000LF of 4"-18" Sewer Line and 110 Manholes
  - a. Contract Amount: \$3,238,775.00
  - b. Dates of Construction: 11/2015 – 08/2016
  - c. Owner: Beckley WV Sanitation Board, Contact: Jeremiah Johnson, 304-253-3526
  - d. Engineer: Burgess & Niple, Contact: Tim Utt, 304-485-8573
  
- 5) St. Mary's Sewer Project-** Installation of 2400 LF of 8" and 12" Gravity Sewer Line, 1600 LF of 12"-18" Storm Sewer Line, 3300LF of 4" Gas Line, 20 Manholes and Drop Inlets
  - a. Contract Amount: \$981,400
  - b. Dates of Construction: 01/2016 – 08/2016
  - c. Owner: WV Dept. of Corrections, Contact: Phillip Farley, 304-558-2036 Ext 53463
  - d. Engineer: S&S Engineering, Contact: Jessie O. Parker Jr., 304-342-7168

- 6) **Webb Tank Project-** Installation of a Retaining Wall Behind Existing Water Tank
  - a. Contract Amount: \$113,726.00
  - b. Dates of Construction: 04/2016 – 06-2016
  - c. Owner: Crum WV PSD, Contact: Jessie Allen, 304-393-3162
  - d. Engineer: E.L. Robinson, Contact: Mark McGettigan, 304-776-7473
  
- 7) **Fairborn Raw Water Project-** Installation of 9600' 18" DIP Raw Waterline, 5-18" Butterfly Valves with Vaults, Chlorine Injection Vaults and Restoration.
  - a. Contract Amount: \$1,885,506.00
  - b. Dates of Construction: 05/2016 – 01/2017
  - c. Owner: Fairborn Ohio PSD, Contact: Karen Hawkins, 937-754-3097
  - d. Engineer: AECOM Columbus, OH, Contact: Brian Benedict, 614-600-5812
  
- 8) **Ironton Storm/Sanitary Sewer Separation Project-** Installation of 12", 18" & 24" Storm Sewer Line, 8" Sanitary Sewer Line, Catch Basins, Manholes, Asphalt Repair, Concrete Sidewalks, Curbs, Curb Ramps & Concrete Alley Construction.
  - a. Contract Amount: \$774,088.00
  - b. Dates of Construction: 07/2016 – 04/2017
  - c. Owner: City of Ironton, Contact: Katrina Keith, 740-532-3833
  - d. Engineer: E.L Robinson, Contact: Michael Williams, PE, 740-532-2411
  
- 9) **Ironton Brick Street Repair Project-** 4,700 SQFT of Brick Roadway Surface Rehab with Concrete Base
  - a. Contract Amount: \$79,800.00
  - b. Dates of Construction: 05/2017 – 05/2017
  - c. Owner: City of Ironton, Contact: Katrina Keith, 740-532-3833
  - d. Engineer: E.L Robinson, Contact: Michael Williams, PE, 740-532-2411
  
- 10) **Malden Contract No. 2- Sewer Project-** Force Main Improvements, Install 11,000LF of 12-18" Force Main
  - a. Contract Amount: \$1,281,060.00
  - b. Dates of Construction: October 2016-August 2017
  - c. Owner: Malden PSD, Charleston, WV; Contact: Chet Adkins, 304-925-6997
  - d. Engineer: Thrasher Group; Contact: Jesse Alden, 304-343-7601
  
- 11) **Malden Contract No. 4- Sewer Project-** Install Effluent Discharge Line, 3,300LF of 30" PVC Gravity Discharge Line
  - a. Contract Amount: \$773,965.00
  - b. Dates of Construction: October 2016-July 2017
  - c. Owner: Malden PSD, Charleston, WV; Contact: Chet Adkins, 304-925-6997
  - d. Engineer: Thrasher Group; Contact: Jesse Alden, 304-343-7601

**12) UK Trunk A Sanitary Sewer Project-** Install 2200LF 42" Sanitary Sewer & 400LF 36" CIPP Lining, 26 Manholes and Concrete and Asphalt Road Restoration

- a. Contract Amount: \$2,767,032.00
- b. Dates of Construction: 09/2016 – 09/2017
- c. Owner: LFUCG, Lexington, KY; Contact: Vernon Azevedo, 859-425-2438
- d. Engineer: MSE of Kentucky; Contact: Glen Ross, 859-223-5694

**13) Ironton Floodwall Pump Station #6 Outfall Relining-** Install 400 LF of 48" Slip lining and Installation of One Sluice Gate Vault

- a. Contract Amount: \$671,036.00
- b. Dates of Construction: 07/2017 – 09/2017
- c. Owner: City of Ironton, Contact: Katrina Keith, 740-532-3833
- d. Engineer: E.L Robinson, Contact: Michael Williams, PE, 740-532-2411

**14) Arthur Plat Water Project-** Install 12,000LF of 8" DIP Waterline, 304 Water Services

- a. Owner: Montgomery County, Ohio Board of Commissioners, Contact: Ed Schlaack, 937-781-2632
- b. Dates of Construction: 08/2017 – 06/2018
- c. Contract Amount: \$1,674,968.00
- d. Engineer: Northwest Consultants, Inc., Contact: Tom Lyons, 937-291-9092

**15) Hampton Manor Sanitary Sewer Improvements Project-** Install 3500LF of 24" Gravity Sewer Line and 38 Manholes

- a. Owner: WMU, Contact: Eddie Hightower, 859-744-5434
- b. Dates of Construction: 06/2017 – 05/2018
- c. Contract Amount: \$1,250,700.00
- d. Engineer: Palmer Engineering Inc, Contact: Stephanie Blain 859-714-1218

**16) W16-4 NW Regional to E Regional System Interconnection-** Install 5,100LF of 20" DIP Water Main

- a. Owner: Greene County, Ohio, Contact: Randy Gilbert, 937-562-7499
- b. Dates of Construction: 12/2017 – 04/2018
- c. Contract Amount: \$1,220,906.48
- d. Engineer: Greene County, Contact: Randy Gilbert, 937-562-7499

**17) West Hickman B&C- Sewer Project-** Install 7,300LF of 48-60" Gravity Sewer and Manholes

- a. Owner: LFUCG, Lexington, KY; Contact: Vernon Azevedo, 859-425-2438
- b. Dates of Construction: 04/2017 – 06/2018
- c. Contract Amount: \$5,890,949.00
- d. Engineer: Vision Engineering, Contact: Jihad Hallany, 859-559-0516

**18) City of Ashland 29<sup>th</sup> St. Storm Water Separation Project- Install 6,875 LF of 15"-48" Diameter Storm Line and Manholes**

- a. Owner: City of Ashland, Contact: Ryan Eastwood PE, 606-327-2008
- b. Dates of Construction: 04/2017 – 09/2018
- c. Contract Amount: \$2,941,565.00
- d. Engineer: HDR Engineering Inc, Contact: 859-223-3755

**19) Greenbrier PSD – Sewer Extension Phase A, Contract 2 Houfnagle Rd- Install 9,000LF of 8" and 6" Gravity Sewer and Manholes**

- a. Owner: Greenbrier PSD #1, Contact: Lisa Bennett, 304-645-6632
- b. Dates of Construction: 03/2018 – 10/2018
- c. Contract Amount: \$1,449,174.00
- d. Engineer: Criss Haynes, PE, 304-667-9507

**20) Danese PSD AML Water Project Contract #1- Install 62,000LF of 6" and 4" Water Line**

- a. Owner: Danese, WV PSD, Contact: Cynthia Jones: 304-438-6686
- b. Dates of Construction: 01/2018 – 12/2018
- c. Contract Amount: \$2,250,991.00
- d. Engineer: E.L Robinson, Contact: Ray Tilly, 304-252-7473

**21) Danese PSD AML Water Project Contract #3- Install 20,000LF of 2-6" Water Line**

- a. Owner: Danese, WV PSD, Contact: Cynthia Jones: 304-438-6686
- b. Dates of Construction: 02/2018 – 12/2018
- c. Contract Amount: \$719,316.00
- d. Engineer: E.L Robinson, Contact: Ray Tilly, 304-252-7473

**22) Island Creek Sanitary Sewer Extension Project- Install 6,500LF of 16" DIP Gravity Sewer Line, 8,400LC of 8" Gravity Sewer and 105 Manholes**

- a. Owner: Logan, WV PSD, Contact: William Baisden, 304-946-2641
- b. Dates of Construction: 01/2018 – 12/2018
- c. Contract Amount: \$4,675,776.00
- d. Engineer: E.L Robinson, Contact: Rick Roberts, 304-776-7473

**23) Maysville Sewer Line Extension Project- Install 16,000LF of 8" Force Main, 9,200LF of 6&8" Gravity Sewer, 1 Lift Station**

- a. Owner: City of Maysville, KY, Contact: David Cartmell, 606-564-9419
- b. Dates of Construction: 03/2018 – 10/2018
- c. Contract Amount: \$1,494,192.00
- d. Engineer: Tetra Tech, Inc., Contact: Herbert LeMaster, 859-223-8000

**24) Williamsdale Sanitary Sewer Expansion Project- Install 3,300LF of 8-15" SDR 35&26 Pipe and 21 Manholes**

- a. Owner: Butler County Ohio, Contact: Wayne Beyerline, 513- 867-5744
- b. Dates of Construction: 06/2018 – 12/2018
- c. Contract Amount: \$1,102,261.00
- d. Engineer: Same as Owner

**25) South Point Clarifier Rehabilitation Project-** Installation of 4 clarifiers for the Village of South Point Sewer Plant

- a. Owner: Village of South Point; Contact: Russ McDonald, 740-377-2304
- b. Dates of Construction: 01/2018 – 12/2018
- c. Contract Amount: \$721,394.00
- d. Engineer: E.L Robinson, Contact: Michael Williams, PE, 740-532-2411

**26) Glenss Creek Interceptor-** Dig & Replace 8,300LF of 24-36" Sanitary Sewer

- a. Owner: City of Frankfort, KY, Contact: Elizabeth Coyle, 502-875-2448
- b. Dates of Construction: 07/2018 – 06/2019
- c. Contract Amount: \$2,282,242.00
- d. Engineer: Hazen & Sawyer, Contact: Kurt Zehnder, 859-317-1424

**27) Summit Rd to Cable Rd Water Line Improvements-** Install 18,000LF of 12" & 8" PVC Waterline

- a. Owner: SWLCWSD, Contact: Lee Conkel, 740-927-0410
- b. Dates of Construction: 08/2018 – 06/2019
- c. Contract Amount: \$1,517,771.00
- d. Engineer: Same as Owner

**28) Hebron Area Sanitary Sewer Improvements Project-** Install 7,000LF of 16" PVC Force Main, 12MH's and 2,500LF of 30" Dig and Replace Gravity Sewer

- a. Owner: Sanitation District #1, Contact: Mike Glowacki, 859-547-1646
- b. Dates of Construction: 05/2018 – 06/2019
- c. Contract Amount: \$2,472,397.00
- d. Engineer: GRW Engineers, Contact: Spencer Stork, 859-223-3999

**29) Town Branch Commons Sanitary Sewer Project-** Installation of 4,800LF of 12-24" PVC Sanitary Sewer Line

- a. Owner: LFUCG Lexington, KY, Contact: Bob Peterson, 859-425-2255
- b. Dates of Construction: 07/2018 – 07/2019
- c. Contract Amount: \$6,412,416.00
- d. Engineer: Strand Associates, Contact: Mike Davis, 859-225-8500

**30) Sam Black Church Waterline Extension Contract 1-** Installation of 7,500LF of 2-8" Water Line

- a. Owner: Greenbrier PSD #2, Contact: Kevin Williams, 304-667-1749
- b. Dates of Construction: 09/2018 – 09/2019
- c. Contract Amount: \$3,500,331.00
- d. Engineer: Thrasher Group, Contact: Thomas Morgan, 304-624-4108

**31) Big Harts Phase 3 Waterline Extension Project**– Installation of 29,000 LF of 2-8” Water Line

- a. Owner: Logan, WV PSD, Contact: William Baisden, 304-946-2641
- b. Dates of Construction: 09/2019 – 08/2019
- c. Contract Amount: \$1,705,644.00
- d. Engineer: E.L Robinson, Contact: Rick Roberts, 304-776-7473

**32) AQUA Ohio, Lawrence County Group 2 Water Improvements**- Installation of 2,400LF of 6 & 8” Water Line with 53 services

- a. Owner: AQUA Ohio, Contact: Richard Dunham, 440-725-2390
- b. Dates of Construction: 07/2019 – 09/2019
- c. Contract Amount: \$438,000.00
- d. Engineer: Same as Owner

**33) Burlington Sewer Force Main Upgrade**- Installation of 4,500LF of 24” Ductile Iron Force Main

- a. Owner: Sanitation District #1, Contact: Mike Glowacki, 859-547-1646
- b. Dates of Construction: 04/2019 – 09/2019
- c. Contract Amount: \$1,433,560.00
- d. Engineer: HDR Engineering Inc, Contact: 859-223-3755

**34) Union PSD Rocky Fork Sanitary Sewer Extension Contract 1**- Installation of 25,000LF of Gravity Sewer and 3 Pump Stations

- a. Owner: Union, WV PSD, Contact: Earl Burks, 304-776-3131
- b. Dates of Construction: 12/2018 – 01/2020
- c. Contract Amount: \$4,105,000.00
- d. Engineer: Thrasher Group, Contact: Jesse Alden, 304-343-7601

**35) Union PSD 40<sup>th</sup> St Sanitary Sewer Extension Contract 2**- Installation of 3,500LF of 6” and 8” Gravity Sewer

- a. Owner: Union, WV PSD, Contact: Earl Burks, 304-776-3131
- b. Dates of Construction: 12/2018 – 01/2020
- c. Contract Amount: \$691,150.00
- d. Engineer: Thrasher Group, Contact: Jesse Alden, 304-343-7601

**36) Union PSD Koontz Drive Lift Station Contract 3**- Installation of 1,400LF of 6” Force Main and Lift Station

- a. Owner: Union, WV PSD, Contact: Earl Burks, 304-776-3131
- b. Dates of Construction: 12/2018 – 01/2020
- c. Contract Amount: \$446,720.00
- d. Engineer: Thrasher Group, Contact: Jesse Alden, 304-343-7601

- 37) New Richmond Water Line-** Installation of 7,000LF of 8", 7,500LF of 6" & 4,400LF of 2" Water Line
- Owner: Ravenscliff-McGraws PSD; Contact: 304-682-0211
  - Dates of Construction: 05/2019 – 01/2020
  - Contract Amount: \$1,599,088.00
  - Engineer: Thrasher Group, Contact: Michael Stone, 304-431-7800
- 38) Big Harts Phase 4 Waterline Extension Project-** Installation of 41,000LF of 2-8" Waterline
- Owner: Logan, WV PSD, Contact: William Baisden, 304-946-2641
  - Dates of Construction: 04/2019 – 01/2020
  - Contract Amount: \$2,548,744.50
  - Engineer: E.L Robinson, Contact: Rick Roberts, 304-776-7473
- 39) Cox Road and Oliver Road 12" Water Main Replacement-** Installation of 7,500LF of 12" Ductile Iron Water Main
- Owner: Northern KY Water District, Contact: Steve Broering, 859-426-2728
  - Dates of Construction: 03/2019 – 04/2020
  - Contract Amount: \$940,926.60
  - Engineer: Same as Owner
- 40) National Pike Little Farms Water Main Replacement Phase 1-** Installation of 18,000LF of 6 & 8" Water Main, 335 Services
- Owner: Franklin County Commissioners, Contact: Ryan Stowe, 614-374-5897
  - Dates of Construction: 10/2019 – 07/2020
  - Contract Amount: \$5,056,620.32
  - Engineer: CCI, Contact: Roger Jacobson, 614-485-0670
- 41) Park Pointe Force Main Bypass Project-** Directional Drill Installation of 280LF of 14: HDPE & Two Tie-ins
- Owner: Huntington Sanitary Board, Contact: Wes Leek, 304-696-4437
  - Dates of Construction: August 2020
  - Contract Amount: \$102,000.00
  - Engineer: Potesta & Associates, Contact: Pat Taylor, 304-342-1400
- 42) 5<sup>th</sup> Ave Outfall Inline Check Valve Project-** Install Inline Check Valve Into 60" Concrete CSO Outfall Pipe
- Owner: Huntington Sanitary Board, Contact: Wes Leek, 304-696-4437
  - Dates of Construction: August 2020
  - Contract Amount: \$71,200.00
  - Engineer: Potesta & Associates, Contact: Pat Taylor, 304-342-1400
- 43) Wolf Run Trunk B&C Sewer Project-** Installation of 4,700LF 42-36" Sanitary Sewer
- Owner: LFUCG, Contact: Bob Peterson, 859-425-2438
  - Dates of Construction: 04/2019 – 10/2020
  - Contract Amount: \$6,253,480.00
  - Engineer: Kenvirons, Contact: Phil Meador, 502-695-4357



**44) Shady Spring Pluto/Fire Trail Rd Sewer Extension Contract 1- Installation of 25,000LF of 6-8" Gravity Sewer & Pump Stations**

- a. Owner: Shady Spring PSD, Contact: Jerry Smith, 304-255-1565
- b. Dates of Construction: 04/2019 – 11/2020
- c. Contract Amount: \$4,418,670.77
- d. Engineer: Cardno, Contact: Myron Amick, 304-809-0606

**45) Shady Spring Pluto/Fire Trail Rd Sewer Extension Contract 2- Installation 18,000LF of 2-4" Force Main, 64 Grinders and a Pump Station**

- a. Owner: Shady Spring PSD, Contact: Jerry Smith, 304-255-1565
- b. Dates of Construction: 04/2019 – 11/2020
- c. Contract Amount: \$2,449,416.82
- d. Engineer: Cardno, Contact: Myron Amick, 304-809-0606

**46) Giatto-Weyanoke Waterline Extension Contract 3- Installation of 16,000LF of 8" and 2,300LF of 2" Waterline**

- a. Owner: Lashmeet PSD, Contact: Robin McGraw, 304-682-0211
- b. Dates of Construction: 03/2020 – 12/2020
- c. Contract Amount: \$1,560,431.80
- d. Engineer: Thompson & Litton, Contact: Stacy Fowler, 304-425-9555



## AFFIDAVIT OF AUTHORITY TO SIGN


Date: 06/30/2015

Tribute Contracting & Consultants, LLC located at 2125 County Road 1 in South Point, OH 45680 does hereby certify that Todd Harrah, Manager/Member and Tom Enyart, Member of Tribute Contracting & Consultants, LLC has the authority to execute and/or sign all documents on behalf of Tribute Contracting & Consultants, LLC for any reason including, but not limited to, all bids or associated bidding documents and associated contract documents.

By affixing his signature Todd Harrah as Manager/Member and Tom Enyart as Member has unequivocal authority to bind Tribute Contracting & Consultants, LLC to any and all contractual arrangements.

  
Todd Harrah (Manager /  
Member)

  
Steven D Whaley (Secretary)

  
Tom Enyart (Member)



COMMONWEALTH OF KENTUCKY  
ALISON LUNDERGAN GRIMES, SECRETARY OF STATE

0916193.06

dcornish  
ADD

Alison Lundergan Grimes  
Kentucky Secretary of State  
Received and Filed:  
3/10/2015 1:29 PM  
Fee Receipt: \$90.00

Division of Business Filings  
Business Filings  
PO Box 718  
Frankfort, KY 40602  
(502) 564-3490  
www.sos.ky.gov

Certificate of Authority  
(Foreign Business Entity)

FBE

Pursuant to the provisions of KRS 14A and KRS 271B, 273, 274, 275, 362 and 386 the undersigned hereby applies for authority to transact business in Kentucky on behalf of the entity named below and, for that purpose, submits the following statements:

1. The entity is a :  profit corporation (KRS 271B),  nonprofit corporation (KRS 273),  professional service corporation (KRS 274),  
 business trust (KRS 386),  limited liability company (KRS 275),  professional limited liability company (KRS 275),  
 limited partnership (KRS 362).

2. The name of the entity is Tribute Contracting & Consultants LLC  
(The name must be identical to the name on record with the Secretary of State.)

3. The name of the entity to be used in Kentucky is (if applicable): \_\_\_\_\_  
(Only provide if "real name" is unavailable for use; otherwise, leave blank.)

4. The state or country under whose law the entity is organized is Ohio

5. The date of organization is November 10, 2014 and the period of duration is \_\_\_\_\_  
(If left blank, the period of duration is considered perpetual.)

6. The mailing address of the entity's principal office is  
306 Little Solida Road South Point OH 45680  
Street Address City State Zip Code

7. The street address of the entity's registered office in Kentucky is  
879 Wilson Run Road Wallingford KY 41093  
Street Address (No P.O. Box Numbers) City State Zip Code

and the name of the registered agent at that office is Fred Conn

8. The names and business addresses of the entity's representatives (secretary, officers and directors, managers, trustees or general partners):

Name	Street or P.O. Box	City	State	Zip Code
Todd A Harrah	306 Little Solida Road	South Point	OH	45680

9. If a professional service corporation, all the individual shareholders, not less than one half (1/2) of the directors, and all of the officers other than the secretary and treasurer are licensed in one or more states or territories of the United States or District of Columbia to render a professional service described in the statement of purposes of the corporation.

10. I certify that, as of the date of filing this application, the above-named entity validly exists under the laws of the jurisdiction of its formation.

11. If a limited partnership, it elects to be a limited liability limited partnership. Check the box if applicable:

12. This application will be effective upon filing, unless a delayed effective date and/or time is provided.  
The effective date or the delayed effective date cannot be prior to the date the application is filed. The date and/or time is 3/4/15  
(Delayed effective date and/or time)

Todd A Harrah

Printed Name & Title

3/4/15  
Date

I, Fred Conn, consent to serve as the registered agent on behalf of the business entity.  
Type/Print Name of Registered Agent

Fred Conn

Printed Name

Registered Agent

Title

Date

Commonwealth of Kentucky  
Alison Lundergan Grimes, Secretary of State

L906  
0916193  
Alison Lundergan Grimes  
KY Secretary of State  
Received and Filed  
4/27/2017 8:51:11 AM  
Fee receipt: \$10.00

Alison Lundergan Grimes  
Secretary of State  
P. O. Box 718  
Frankfort, KY 40602-0718  
(502) 564-3490  
<http://www.sos.ky.gov>

Statement of Change of  
Principal Office Address

POC

Pursuant to the provisions of KRS chapters 271B, 273, 275, or 362, the undersigned hereby applies to change the principal office on behalf of

**TRIBUTE CONTRACTING & CONSULTANTS LLC**

which is organized in the state of Ohio, and for that purpose submits the following statements:

1. Address of current principal office

306 LITTLE SOLIDA ROAD  
SOUTH POINT, OH 45680

2. Principal office is hereby changed to:

2125 County Road 1  
SOUTH POINT, OH 45680

3. Signature of officer or chairman of the board

Todd Harrah, Manager/Member
<small>Signature and Title</small>

<small>Type or print name and title</small>
4/27/2017 8:51 AM
<small>Date</small>

TruTest Quote - WBE

TruTest, LLC  
PO Box 221166  
Louisville, KY 40252  
(502)552-5142  
trutestseals@yahoo.com

## Estimate

**ADDRESS**  
Quote

**ESTIMATE #** 1305  
**DATE** 01/23/2021

**JOB**  
Wolf Run

ACTIVITY	QTY	RATE	AMOUNT
<b>Mobilization</b> Mobilization (EA)	1	125.00	125.00
<b>Air &amp; Deflection Test</b> 8" Air & Deflection Test (LF)	1	0.56	0.56
<b>10" A &amp; D</b> 10" Air and Deflection Test (LF)	1	0.70	0.70
<b>12" A &amp; D</b> 12" Air & Deflection Test (LF)	1	0.84	0.84
<b>Air &amp; Deflection Test</b> 18" Air & Deflection Test (LF)	1	1.25	1.25
<b>Air &amp; Deflection Test</b> 24" Air & Deflection Test (LF)	1	1.75	1.75
<b>Air &amp; Deflection Test</b> 27" Air & Deflection Test (LF)	1	2.10	2.10
<b>Air &amp; Deflection Test</b> 30" Air & Deflection Test (LF)	1	2.50	2.50
<b>Air &amp; Deflection Test</b> 36" Air & Deflection Test (LF)	1	3.00	3.00
<b>Vacuum Tests</b> 48" Manhole Vacuum Tests (EA)	1	99.00	99.00
<b>Vacuum Tests</b> 60" Manhole Vacuum Tests (EA)	1	159.00	159.00
<b>Vacuum Tests</b> 72" Manhole Vacuum Tests (EA)	1	229.00	229.00
<b>CCTV</b> 8" - 12" CCTV Inspection (LF)	1	1.10	1.10
<b>CCTV</b> 18" - 36" CCTV Inspection (LF)	1	1.50	1.50

TOTAL

**\$627.30**

Accepted By

Accepted Date

From: [trutestseals@yahoo.com](mailto:trutestseals@yahoo.com)  
Subject: Re: 12/14/17 LFUCG Shandon Trunk Sewer Quote Solicitation  
Date: Feb 2, 2021 at 2:43:58 PM  
To: Aimee Harrah [aimeee2016@icloud.com](mailto:aimeee2016@icloud.com)

I will send it in the next few minutes. If you don't have it in the next hour please call me at 502-552-9022. Good luck, we would love to see you all get this one.

Kristi

On Tuesday, February 2, 2021, 01:20:24 PM EST, Aimee Harrah <[aimeee2016@icloud.com](mailto:aimeee2016@icloud.com)> wrote:

> Kristi,  
>  
> It's Aimee with Tribute and Todd wanted me to reach out to you for a testing quote on LFUCG Wolf Run D & E project.  
>  
> Please send me your quote as soon as you get the time, I will also need DBE forms signed as well. I will send those to you once you confirm you are quoting.  
>  
> Look forward to hearing from you!  
>  
> Thanks,  
> Aimee  
>  
>  
> Aimee Harrah  
> Tribute Contracting & Consultants, LLC  
> 2125 County Road 1  
> South Point, OH 45680  
> P: 740-451-1010  
> F: 740-894-3168  
>

4:44 ↶

DBE/MBE  
Vision Engineering  
Layout Quote

< 49

5 Messages



**Jihad Hallany**

To: Aimee Harrah >

4:02 PM

## RE: Wolf Run D&E Layout

Aimee,

We determined that the fee to do the construction staking and as-built, the construction staking at \$10,500 and as-built survey for \$10,000. Thanks so much for giving us the opportunity to be part of your team.

Thanks,

Jihad

**From:** Aimee Harrah <[aimeeee2016@icloud.com](mailto:aimeeee2016@icloud.com)>

**Sent:** Tuesday, February 2, 2021 2:18 PM

**To:** Jihad Hallany <[jhallany@visionengr.com](mailto:jhallany@visionengr.com)>

**Subject:** Re: Wolf Run D&E Layout

it bids Thursday.

Aimee Harrah

Tribute Contracting & Consultants, LLC

2125 County Rd 1, South Point, OH 45680

P: 740-451-1010 | F: 740-894-3168

[aimeeee2016@icloud.com](mailto:aimeeee2016@icloud.com)

Sent from iCloud

On February 2, 2021 at 10:34 AM, "Jihad Hallany" <[jhallany@visionengr.com](mailto:jhallany@visionengr.com)> wrote:

Aimee,

We appreciate you give us the opportunity to put the





4:44 ↶



5 Messages



49

## Wolf Run D&E Layout



2125 County Rd 1, South Point, OH 45680  
P: 740-451-1010 | F: 740-894-3168  
[aimeeee2016@icloud.com](mailto:aimeeee2016@icloud.com)

Sent from iCloud

On February 2, 2021 at 10:34 AM, "Jihad Hallany" <[jhallany@visionengr.com](mailto:jhallany@visionengr.com)> wrote:

Aimee,

We appreciate you give us the opportunity to put the proposal together, do you know when you need the bid?

Thanks

-----Original Message-----

From: Aimee Harrah <[aimeeee2016@icloud.com](mailto:aimeeee2016@icloud.com)>

Sent: Tuesday, February 2, 2021 1:15 PM

To: [jhallany@visionengr.com](mailto:jhallany@visionengr.com)

Subject: Wolf Run D&E Layout

Jihad,

Todd wanted me to reach out and see if you're quoting the layout for Wolf Run D&E project. If so, please email me or him the quote.

Thanks,  
Aimee

Aimee Harrah  
Tribute Contracting & Consultants, LLC  
740-451-1010

Sent from my iPhone



Fence Quote - Veteran

# QUOTATION

## HERB GEDDES FENCE CO.

232 INDUSTRY PARKWAY  
NICHOLASVILLE, KY 40356

Voice: 859-885-2215  
Fax: 859-885-2219



Quote Number: 2853  
Quote Date: Feb 2, 2021  
Page: 1

<b>Quoted To:</b>	<b>Job Site Address:</b>
ESTIMATOR	LFUCG WOLF RUN TRUNK SEWERS D & E LEXINGTON, KY

<b>Customer Contact</b>	<b>Phone</b>	<b>Email Address</b>

Description	Amount
INSTALL 320' OF 4' HIGH CHAIN LINK FENCE	4,800.00
10' OF 8' HIGH PRIVACY FENCE	300.00

**LEAD TIME:**

All property lines to be marked prior to installation or shown at time of installation. We assume no responsibility for measuring property lines. Not responsible for underground pipes, wires or utilities. Any rock/large tree roots encountered while excavating post holes will be charged an additional \$25.00 per hole.	Subtotal	5,100.00
	Sales Tax	
	Freight	
	<b>TOTAL</b>	<b>5,100.00</b>

One year warranty on labor & materials except wood. Wood is a natural product & is not perfect. Therefore we are not responsible for natural shrinking, knots, warping or checking. In the event of litigation between the parties, the customer agrees to pay a reasonable attorney fee for Herb Geddes Fence Company.  
Any alterations from the above specifications could incur additional costs above the original estimate.

**Estimator:**

**ACCEPTANCE OF PROPOSAL** - The above price and specifications are satisfactory and are hereby accepted. You (Herb Geddes Fence) are authorized to do the work as specified. Residential jobs require a 50% deposit upon acceptance of proposal, and a 3% charge will be applied when a Credit/Debit card is used for payment. A 25% non-refundable restocking fee will be applied to all special order materials.

Signature \_\_\_\_\_ Date of acceptance: \_\_\_\_\_

**ADDENDUM No. 4**Bid Number: **#132-2020**

Date: January 28, 2021

Subject: Wolf Run Trunk Sewers D & E  
Wastewater System Improvements  
Remedial Measures Plan ID No. WR-04, WR-05Address inquiries to:  
Q&A Module on Ion WaveBrian Marcum  
[brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)  
(859) 258-3325**TO ALL PROSPECTIVE SUBMITTERS:**

Please be advised of the following clarifications to the above referenced Bid:

	Questions	Answers
1.	Can you email myself the attendee list for the LFUCG - Wolf Run Trunk Sewers D & E - Pre-Bid Meeting?	The attendee list was sent out as part of Addendum #3.
2.	Sheet C-05: Will the contractor be reimbursed for gas line location?	No, the Contractor's costs to field verify the gas line location, within the first 30-days of the NTP, will be incidental to the project cost.
3.	Sheet C-06: Will the contractor be reimbursed for gas line location?	No, the Contractor's costs to field verify the gas line location, within the first 30-days of the NTP, will be incidental to the project cost.
4.	Can the bid date be extended for the project? There are several other projects out to bid around the 2/4/21 bid date. A one or two week extension would allow us more time to put a competitive number on this project.	No, due to EPA consent judgement deadlines the bid date will not be extended.
5.	Where do we install sanitary markers?	Sanitary markers are not required for gravity sewer projects.





6.	Please clarify there are no inside drop manholes on the project?	There will be one (1) internal drop manhole as part of this project. MH #E-24, on SHT C-13 has an 18" internal drop to allow room for the 24" sewer stub-out. The internal manhole drop connection detail can be found on SHT SD4.
7.	Is there an engineer's estimate?	LFUCG does not release the engineer's estimate prior to bid opening.
8.	For this amount of pipe in rock, can the schedule of 365 days be extended if needed?	No, due to the EPA consent judgement schedule the construction time will not be extended.
9.	Will settlement monitoring be on this project per spec 2222-8?	Specification Section 2222 applies to bore-pits. Settlement monitoring, as outlined in this specification, will not be necessary for this project. However, the Contractor is responsible for any construction settlement on the project.
10.	Unit 67 & 70 conflict with each other. Which one do we use for sod?	Line item #70 (Sod) in the Bid Schedule is redundant and will be removed. See updated Bid Schedule.
11.	Will 1037 Cross Key Rd dumpster pad & fence be by units or is this incidental to contract?	Dumpster pads and fences being disturbed as part of this project are incidental to the contract as listed in the MOU conditions. These items shall be replaced per LFUCG's current dumpster pad guidelines.
12.	Will chain link fence for personal properties be per unit prices 4 & 6' ft fence?	Chain link fencing associated with personal properties that are outlined in the MOU conditions will be incidental to the contract. Refer to the attached updated Bid Schedule for all fencing outside of personal properties.
13.	(The entry of mobile equipment into stream channel shall be prohibited) Can you clarify on what this means? No equipment at all in the creek?	The entry of mobile equipment into a stream channel shall be prohibited, based off the General Floodplain Permit. If the entirety of construction cannot be accomplished from the stream bank, the Contractor will have to obtain an individual permit.
14.	Will tree removal for specific addresses be part of clear & grub unit price or will this be incidental?	All tree removal is incidental to the contract either by line item #89 (Clearing and Grubbing) in the Bid Schedule or through the MOU conditions.
15.	What unit will the temporary stone parking lot area be in?	It is Incidental to the contract.





16.	Is full depth stone backfill required under all pavements?	Yes.
17.	Will creek crossing detail be provided?	Creek crossing specifics are located on the "Streambank Restoration" details which can be seen on SHT SD5
18.	Can sanitary sewer maps be provided in vicinity of new construction to facilitate bypass pumping planning?	Sanitary sewer maps will be provided to the successful bidder.
19.	Is it okay to close Appomattox road, Normandy road, Furlong drive, and Beacon Hill road as needed?	Access to all private driveways will remain open at all times. Any lane and/or road closures are the Contractor's responsibility to be coordinate with and submitted for approval to LFUCG's traffic engineering.
20.	Maximum flow expected thru the existing 21" RCP at 0.16% slope is approximately 3,000 GPM. Is it necessary to size pumps and piping for 8.3 MGD (5,764 GPM)?	Yes, the pump rate listed was established by LFUCG's Consent Decree modeling results for a 2-year 24-hour storm.
21.	Will blasting be allowed during this project?	There is no blasting allowed for the project. Specification Section 02225 is a standard specification.
22.	Will steam be allowed for the CIPP alternative?	Yes.

### 1. CLARIFICATIONS

- A. None at this time.

### 2. DRAWINGS

- A. Drawing C-02
- Revise profile note for MH # D-4 to read:  
INV. IN EL. = 899.79 (4" SEWER) (N) (EXTERNAL DROP)

### 3. SPECIFICATIONS

- A. Specification Section 00410 – Bid Form
- Replace Section 00410, in its entirety, with attached revised Bid Schedule



MAYOR LINDA GORTON



**LEXINGTON**

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

**B. Specification Section 01025 – Measurement and Payment**

- Delete paragraph 2.38 in its entirety and replace with the following:  
2.38 Not Used

Todd Slatin, Director  
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.  
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: Tribute Contracting & Consultants, LLC

ADDRESS: 2125 Co Rd 1, South Point, OH 45680

SIGNATURE OF BIDDER:   
Todd Harrah, Manager/member

**Attachments:**

Drawings	
Specifications	
00410 – Bid Form	
Plan Holders List	



MAYOR LINDA GORTON



**LEXINGTON**

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

**ADDENDUM No. 3**

Bid Number: **#132-2020**

Date: January 26, 2021

Subject: Wolf Run Trunk Sewers D & E  
Wastewater System Improvements  
Remedial Measures Plan ID No. WR-04, WR-05

Address inquiries to:  
Q&A Module on Ion Wave

Brian Marcum  
[brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)  
(859) 258-3325

**TO ALL PROSPECTIVE SUBMITTERS:**

Please be advised of the following clarifications to the above referenced Bid:

1. **CLARIFICATIONS**
  - A. Please see attached Pre-Bid Meeting Minutes
2. **DRAWINGS**
  - A. None at this time.
3. **SPECIFICATIONS**
  - A. None at this time.

Todd Slatin, Director  
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.  
This letter should be signed, attached to and become a part of your Bid.



MAYOR LINDA GORTON

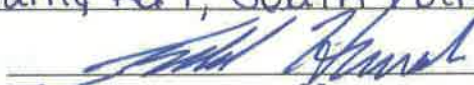


**LEXINGTON**

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

COMPANY NAME: Tribute Contracting & Consultants, LLC

ADDRESS: 2125 County Rd 1, South Point, OH 45680

SIGNATURE OF BIDDER:   
Todd Harrah, Manager/Member

**Attachments:**

- Pre-Bid Meeting Minutes
- Attendee Log (Sign-in Sheet)
- PIE Procedures for DWQ Projects
- DWQ Policy for Storing Materials in the Floodway







**ADDENDUM No. 2**

Bid Number: **#132-2020**

Date: January 19, 2021

Subject: Wolf Run Trunk Sewers D & E  
Remedial Measures Plan ID No. WR-04, WR-05

Address inquiries to:  
Q&A Module on Ion Wave

Brian Marcum  
[brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)  
(859) 258-3325

**TO ALL PROSPECTIVE SUBMITTERS:**

Please be advised of the following clarifications to the above referenced Bid:

The Microsoft Teams Meeting link has been revised. A new meeting link and a call in number are provided below, as shown in the specification revision.

A. Specification Section 00100 – Advertisement for Bids

- Revise Section 00100, Part 1.12, Page 00100-3, to read:

A mandatory pre-Bid meeting will be held at 9:00 am local time, January 20, 2021 via teleconference. A direct link to the Microsoft Teams Meeting is as follows:

Microsoft Teams meeting

Join on your computer or mobile app

[https://teams.microsoft.com/l/meetup-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBi%40thread.v2/0?context=%7b%22tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

[join/19%3ameeting\\_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBi%4](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBi%40thread.v2/0?context=%7b%22tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

[0thread.v2/0?context=%7b%22tid%22%3a%22083fc4d2-72ad-412b-ae7d-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBi%40thread.v2/0?context=%7b%22tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

[6b81b83916dd%22%2c%22oid%22%3a%22148017a5-c42e-4f7e-864e-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBi%40thread.v2/0?context=%7b%22tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

[3de5bb20c0bc%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBi%40thread.v2/0?context=%7b%22tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

Or <https://tinylink.net/1gUsg>

Or scan QR Code Below



Or call in (audio only) +1 502-208-2565, ID No.: 348 543 571# United States, Louisville



MAYOR LINDA GORTON



# LEXINGTON

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

Todd Slatin, Director  
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.  
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: Tribute Contracting & Consultants, LLC

ADDRESS: 2125 County Rd 1, South Point, OH 45680

SIGNATURE OF BIDDER:   
Todd Harrah, Manager / Member

Attachments:

Drawings	
Specifications	





**ADDENDUM No. 1**

Bid Number: **#132-2020**

Date: January 19, 2021

Subject: Wolf Run Trunk Sewers D & E  
Wastewater System Improvements  
Remedial Measures Plan ID No. WR-04, WR-05

Address inquiries to:  
Q&A Module on Ion Wave

Brian Marcum  
[brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)  
(859) 258-3325

**TO ALL PROSPECTIVE SUBMITTERS:**

Please be advised of the following clarifications to the above referenced Bid:

**1. DRAWINGS**

A. Drawing C-13

- Revise the invert elevation of the 24" stub out on MH E-24 from 714.10 to 914.10, in the profile. Elevation is shown in two locations.

**2. SPECIFICATIONS**

A. Specification Section 00100 – Advertisement for Bids

- Revise Section 00100, Part 1.12, Page 00100-3, to read:
  - A **mandatory** pre-Bid meeting will be held at **9:00 am local time, January 20, 2021** via teleconference. A direct link to the Microsoft Teams Meeting is as follows:  
[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_NGEyODAzMWEtNjgwNi00MWQxLTg0MDctMmNlMDFiYjQzMTg3%40thread.v2/0?context=%7b%22id%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%223f98bafd-29d4-4ba0-9821-024d98a2833c%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_NGEyODAzMWEtNjgwNi00MWQxLTg0MDctMmNlMDFiYjQzMTg3%40thread.v2/0?context=%7b%22id%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%223f98bafd-29d4-4ba0-9821-024d98a2833c%22%7d)



MAYOR LINDA GORTON



# LEXINGTON

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

Todd Slatin, Director  
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.  
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: Tribute Contracting & Consultants, LLC

ADDRESS: 2125 County Rd 1, South Point OH 45680

SIGNATURE OF BIDDER:

Todd Harrah, Manager/member

Attachments:

Drawings	
Specifications	



**SECTION 00510 – NOTICE OF AWARD**

CONTRACTOR: Tribute Contracting & Consultants, LLC  
2125 County Rd 1  
South Point, OH 45680

OWNER: Lexington-Fayette Urban County Government  
Division of Water Quality  
Lexington, Kentucky

PROJECT: Wolf Run Trunk Sewers D & E Wastewater System Improvements  
Lexington-Fayette Urban County Government  
LFUCG Bid No. 132-2020

You are hereby notified that the Owner has considered the Bid submitted by you for the above-described project in response to its Advertisement for Bids dated **January 7, 2021**.

It appears that it is to the best interest of said Owner to accept your Bid in the amount of **Three Million Twenty One Thousand Eighty Seven** dollars (\$ **3,021,087.00** ), and you are hereby notified that your Bid has been accepted for

**Wolf Run Trunk Sewers D & E Wastewater System Improvements**

LFUCG Bid No.132-2020

The Contractor is required by these Contract Documents to execute and deliver the formal Agreement (Contract) with the undersigned Owner and to furnish the required Contractor's Performance, Payment, Warranty, and Erosion and Sediment Control Bonds within fifteen (15) days from the date of the delivery of this Notice.

If you fail to execute said Agreement (Contract) and to furnish said Bonds within fifteen (15) days from the date of delivery 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 to award the Work covered by your Bid to another, or to re-advertise the Work or otherwise dispose thereof as the Owner may deem appropriate.

Dated this 8th day of March, 2021.

Lexington-Fayette Urban County Government

By: 

Title: RMP Manager

**NOTICE OF ACCEPTANCE**

Receipt of the above Notice of Award is hereby acknowledged this 9th day of March, 2021.

By: 

Title: Todd Harrah, Manager/member

END OF SECTION

## SECTION 00520 – AGREEMENT (CONTRACT)

THIS AGREEMENT, made on the \_\_\_\_ day of \_\_\_\_\_, 2021, by and between Lexington Fayette Urban County Government, acting herein called "OWNER" and Tribute Contracting & Consultants, LLC doing business as a Tribute Contracting & Consultants located in the City of South Point, County of Lawrence, State of Ohio, hereinafter called "CONTRACTOR".

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of \$3,021,087.00 dollars quoted in the BID by the CONTRACTOR, dated February 4, 2021, hereby agree to commence and complete the construction described as follows:

### 1.01 SCOPE OF WORK

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, supervision, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the BID, the Contract Documents, and the Specifications prepared by the Engineer for the Wolf Run Trunks D & E project. The proposed Wolf Run trunk D will include the replacement and installation of approximately 305 linear feet of 36-inch diameter sewer, 2,400 linear feet of 30-inch diameter sewer, 120 linear feet of 12-inch diameter sewer, and appurtenant structures. The proposed Wolf Run Trunk E will include the replacement and installation of approximately 3,250 linear feet of 27-inch gravity sewer, 1150 linear feet of 24-inch gravity sewer, 130 linear feet of 18-inch gravity sewer, 200 linear feet of 10-inch gravity sewer, 50 linear feet of 8-inch gravity sewer, and appurtenant structures.  
LFUCG Bid No.132-2020.

### 1.02 TIME OF COMPLETION

The time period estimated and authorized by the OWNER for Substantial Completion of Work by the AGREEMENT, in full, is hereby fixed as ~~365~~ **consecutive calendar days**. The time shall begin ten (10) calendar days after CONTRACTOR is issued the Notice to Proceed.

### 1.03 ISSUANCE OF NOTICE TO PROCEED

Notice to Proceed for Work will be issued in whole or in part of the Work as determined by the OWNER pending the availability of funds. The order of construction will be as determined by the Engineer after consultation with the CONTRACTOR and the OWNER.

### 1.04 AGREEMENT (CONTRACT) AMOUNT

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the AGREEMENT as quoted in the BID, subject to any additions and deductions, as provided therein.

### 1.05 PROGRESS PAYMENTS

The OWNER shall make payments on account of the AGREEMENT in accordance with the General Conditions, as recommended by the Engineer and authorized by the OWNER, less the aggregate of previous payments.

### 1.06 ACCEPTANCE AND FINAL PAYMENT

Final payment shall be due within ninety (90) days after Final Completion of the Work, provided the Work is deemed "Final Completion" and fully accepted by the OWNER.

Before issuance of final certificate, the CONTRACTOR shall submit evidence satisfactory to the Engineer that all payrolls, material bills, and other indebtedness connected with the AGREEMENT (CONTRACT) has been paid.

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

#### **1.07 EXTRA WORK**

The OWNER, without invalidating the AGREEMENT (CONTRACT) may order extra work or make changes by altering, adding to or deducting from the Work, the AGREEMENT (CONTRACT) amount being adjusted accordingly. All such work shall be executed and paid for in accordance with the General Conditions.

#### **1.08 LIQUIDATED DAMAGES**

If the CONTRACTOR shall fail or refuse to complete the Work within the AGREEMENT (CONTRACT) Time, or extension of time granted by the OWNER, then the CONTRACTOR agrees as a partial consideration for the awarding of this AGREEMENT (CONTRACT) that the OWNER may retain the compensation otherwise to be paid to the CONTRACTOR the amount of ~~one thousand~~ dollars (\$1,000) per consecutive calendar day that the CONTRACTOR shall be in default after the Final Completion time stipulated in the Contract Documents. The said amount is fixed and agreed upon by and between the CONTRACTOR and the OWNER because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the OWNER would in such event sustain.

#### **1.09 CONSENT DECREE REQUIREMENTS**

- A. The OWNER, the United States Environmental Protection Agency, and the Commonwealth of Kentucky have entered into a Consent Decree in a case styled *United States, et al. v. Lexington-Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Case No. 5:06-CV-00386 ("CONSENT DECREE"), that requires OWNER to complete numerous projects related to its sanitary sewer system and stormwater management program within specific periods of time.
- B. **Time is of the essence in the performance of this Agreement (CONTRACT).** CONTRACTOR is aware that the OWNER is subject to penalties for non-compliance with the CONSENT DECREE deadlines. The CONTRACTOR shall be specifically liable and responsible for payment of any and all penalties, fines, or fees assessed against or incurred by the OWNER as a result of any delay in, or non-performance of, any of the CONTRACTOR's obligations or responsibilities under this AGREEMENT (CONTRACT), or for any other damages suffered by OWNER as a result of such delay or non-performance. This shall specifically include, but shall not be limited to, any penalty, fine, fee, or assessment against the OWNER by the U.S. Department of Justice, U.S. Environmental Protection Agency, and/or the Kentucky Energy and Environment Cabinet related to the CONSENT DECREE.
- C. The provisions of the Contract Documents and the various rates of compensation for CONTRACTOR's services provided for elsewhere in this AGREEMENT (CONTRACT) have

been agreed to in anticipation of the orderly and continuous progress of the AGREEMENT (CONTRACT) through completion.

- D. If delays result by reason of acts of the OWNER or approving agencies, which are beyond the control of the CONTRACTOR, an extension of time for such delay will be considered. If delays occur, the CONTRACTOR shall immediately notify the OWNER and within five (5) business days from the date of the delay apply in writing to the OWNER for an extension of time for such reasonable period as may be mutually agreed upon between the parties, and if approved, the AGREEMENT (CONTRACT) schedule shall be revised to reflect the extension. Such extension of time to the completion date shall in no way be construed to operate as a waiver on the part of the OWNER of any of its rights in the AGREEMENT (CONTRACT). In the event the parties cannot agree upon an extension of time, the Dispute shall be addressed in the manner outlined hereinafter under this Article.

In the event that the overall delay resulting from the above-described causes is sufficient to prevent complete performance of the AGREEMENT (CONTRACT) within six (6) months of the time specified herein, the fees to be paid to CONTRACTOR shall be subject to adjustment as agreed upon by the parties.

- E. If delays result solely by reason of acts of the CONTRACTOR, the CONTRACTOR shall be held liable for any financial penalties incurred by the OWNER as a result of the delay, including but not limited to those assessed pursuant to the CONSENT DECREE. Disputes as outlined hereinafter in this Article shall apply in the event the parties cannot mutually agree upon the cause(s) associated with delays in completing project deliverables. The CONTRACTOR must immediately notify the OWNER in the event of such delay, and provide the OWNER a written action plan within five (5) business days on how it will attempt to resolve the delay.

F. DISPUTES

Except as otherwise provided in this AGREEMENT (CONTRACT), any dispute hereunder may be resolved by agreement of the OWNER's Agent (Charles H. Martin, P.E., Director of Water Quality) and the CONTRACTOR. In the absence of such an agreement, the dispute shall be submitted to the OWNER's Commissioner, Department of Public Works and Environmental Quality, whose decision shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary, or so grossly erroneous as necessarily to imply bad faith. Pending a final decision of a dispute hereunder the CONTRACTOR shall proceed diligently with the performance of the AGREEMENT (CONTRACT) in accordance with the direction of the OWNER.

**1.10 RIGHT TO REVIEW, AUDIT, AND INSPECT**

The CONTRACTOR shall provide to the OWNER or its duly authorized representative(s), at any time during the course of the contract and up to five (5) years thereafter, access to any books, documents, papers, emails, and/or other records or communications which are directly pertinent to this specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

**1.11 CONTRACT DOCUMENTS**

In general, the Advertisement for Bids, Information Available to Bidders, the Bid, the General Conditions, Performance, Payment, Erosion and Sediment Control and Warranty Bonds, AGREEMENT (CONTRACT), Supplementary Conditions, Supplemental General Conditions for SRF, Technical Specifications, any and all Addenda, and Plan Drawings form the AGREEMENT (CONTRACT) and they are fully a part of the AGREEMENT (CONTRACT) as if hereto attached or herein repeated.

A full listing of the Contract Documents consist of the following:



Specifications: Per Table of Contents  
Drawings (Plans): Per Table of Contents

IN WITNESSETH WHEREOF, the parties hereto have executed this AGREEMENT (CONTRACT) as of the date and year above written.

(Seal)

Lexington-Fayette Urban County Government  
Lexington, Kentucky

(Owner)

ATTEST:

Margerie Sommers  
Clerk of Urban County Council

By: Linda Gorton  
(Signature of Mayor)

Linda Gorton, Mayor  
(Name/Title)

(Seal)

Tribute Contracting & Consultants, LLC  
(Contractor)

Steven D. Whaley (Secretary)\*

By: Todd Harrah  
(Contractor's Signature)

Aimee Harrah  
Aimee Harrah (Witness)

Todd Harrah, Manager/member  
(Name/Title)

2125 County Road 1, South Point, OH, 45680  
(Address)

\*IMPORTANT: Strike out any non-applicable terms:

Secretary of the OWNER should attest. If the CONTRACTOR is corporation, Secretary should attest. Give proper title of each person-executing AGREEMENT (CONTRACT).

END OF SECTION

**SECTION 00550 – NOTICE TO PROCEED**

CONTRACTOR: Tribute Contracting & Consultants, LLC

2125 County Road 1

South Point, OH 45680

OWNER: Lexington-Fayette Urban County Government  
Lexington, Kentucky

PROJECT: Wolf Run Trunk Sewers D & E Wastewater System Improvements  
Lexington-Fayette Urban County Government  
Lexington, Kentucky

LFUCG Bid No.132-2020

Agreement (Contract) Amount:  
Three Million Twenty-One Thousand and Eighty-Seven Dollars (\$3,021,087.00)

This Notice to Proceed is issued on \_\_\_\_\_, 20\_\_; therefore, Contractor is hereby notified to commence Work on the referenced Project on or before \_\_\_\_\_, 20\_\_ and to substantially complete Work within 365 CONSECUTIVE CALENDAR DAYS thereafter. The Agreement (Contract) completion date is therefore \_\_\_\_\_, 20\_\_.

The Agreement (Contract) provides for assessment of the sum of \_\_\_\_\_ dollars (\$\_\_\_\_\_) as liquidated damages for each consecutive calendar day after the above established Agreement (Contract) completion date that the Work remains incomplete.

Lexington-Fayette Urban County Government

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

END OF SECTION

**SECTION 00600 – BONDS AND CERTIFICATES**

**1.01 PERFORMANCE BOND**

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that

Tribute Contracting & Consultants, LLC  
(Name of CONTRACTOR)

2125 County Road 1, South Point, OH 45680  
(Address of CONTRACTOR)

a Corporation, hereinafter  
(Corporation, Partnership, or Individual)

called Principal, and Ohio Farmers Insurance Company  
(Name of Surety)

1 Park Circle, Westfield Center, OH 44251  
(Address of Surety)

hereinto called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
200 East Main Street, Third Floor  
Lexington, Kentucky 40507

Obligee, hereinafter called "OWNER" in the penal sum of:

Three Million Twenty One Thousand Eighty Seven Dollars (\$3,021,087.00),  
for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators,  
successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for the  
Wolf Run Trunk Sewers D & E Wastewater System Improvements Project, LFUCG Bid No. **132-2020** in  
accordance with Contract Documents prepared by GRW Engineers, Inc. and dated March 18, 2021  
which Agreement (Contract) is by reference made a part hereof, and is hereinafter referred to as the  
Agreement (Contract).

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly  
and faithfully perform said Agreement (Contract), then this obligation shall be null and void; otherwise it  
shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever, Principal shall be, and declared by OWNER to be in default under the Agreement (Contract), the OWNER having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Agreement (Contract) in accordance with its terms and conditions or
2. Obtain a Bid or Bids for completing the Agreement (Contract) in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for an Agreement (Contract) between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Agreement (Contract) or Agreements (Contracts) of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Agreement (Contract) Amount; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "Balance of the Agreement (Contract) Amount", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Agreement (Contract) and any amendments thereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration of one (1) year from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators or successors of OWNER.

IN WITNESS WHEREOF, this instrument is executed in Six (6) counterparts, each one of (number)

which shall be deemed an original, this the 18th day of March, 2021

ATTEST:

Tribute Contracting & Consultants, LLC  
Principal

  
(Principal) Secretary  
Steven D. Whaley

By:  (s)  
Todd Harrah

2125 County Road 1  
Address


South Point, OH 45680

  
Witness as to Principal

505 2nd St E  
Address

South Point, OH 45680

Ohio Farmers Insurance Company  
Surety

By:   
Attorney-in-Fact Brenda J. Kash

1 Park Circle  
Address

Westfield Center, OH 44251

ATTEST:

  
(Surety) Secretary  
Lindsay Conley


(SEAL)

  
Kristie Perry Witness to Surety

One Insurance Way  
Address

Ona, WV 25545

Title: Attorney-In-Fact  
Surety

By:   
Tara Shoemaker

Title: Agent

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Agreement (Contract).

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 04/04/17, FOR ANY PERSON OR PERSONS NAMED BELOW.

General Power of Attorney

POWER NO. 4750592 01

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

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint C. DAVID ROBINSON, BRENDA J. KASH, ZACHARY R. KELLER, PATRICIA G. STUTLER, TARA SHOEMAKER, JOINTLY OR SEVERALLY

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

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

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

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

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

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

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereto affixed this 04th day of APRIL, A.D., 2017.

Corporate Seals Affixed



WESTFIELD INSURANCE COMPANY WESTFIELD NATIONAL INSURANCE COMPANY OHIO FARMERS INSURANCE COMPANY

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

State of Ohio County of Medina ss.:

On this 04th day of APRIL, A.D., 2017, before me personally came Dennis P. Baus to me known, who, being by me duly sworn, did depose and say, that he resides in Wooster, Ohio; that he is National Surety Leader and Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument, that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial Seal Affixed



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

State of Ohio County of Medina ss.:

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

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this 18th day of March, A.D., 2021.



Frank A. Carrino, Secretary

**1.02 PAYMENT BOND**

**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS, that

Tribute Contracting & Consultants, LLC

(Name of CONTRACTOR)

2125 County Road 1, South Point, OH 45680

(Address of CONTRACTOR)

a \_\_\_\_\_ Corporation \_\_\_\_\_, hereinafter  
(Corporation, Partnership, or Individual)

called Principal, and Ohio Farmers Insurance Company  
(Name of Surety)

1 Park Circle, Westfield Center, OH 44251

(Address of Surety)

hereinto called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
200 East Main Street, Third Floor  
Lexington, Kentucky 40507

Obligee, hereinafter called "OWNER" in the penal sum of:

Three Million Twenty One Thousand Eighty Seven Dollars (\$3,021,087.00), for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for the Wolf Run Trunk Sewers D & E Wastewater System Improvements Project, LFUCG Bid No. **132-2020** in accordance with Contract Documents prepared by GRW Engineers, Inc. and dated March 18, 2021, which Agreement (Contract) is by reference made a part hereof, and is hereinafter referred to as the Agreement (Contract).

NOW, THEREFORE THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined for all labor and material used or reasonably required for use in the performance of the Agreement (Contract), then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor material, or both, used or reasonably required for use in the performance of the Agreement (Contract), labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Agreement (Contract).

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 04/04/17, FOR ANY PERSON OR PERSONS NAMED BELOW.

General  
Power  
of Attorney

POWER NO. 4750592 01

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

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint  
**C. DAVID ROBINSON, BRENDA J. KASH, ZACHARY R. KELLER, PATRICIA G. STUTLER, TARA SHOEMAKER, JOINTLY OR SEVERALLY**

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

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

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

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

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

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

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereto affixed this 04th day of APRIL, A.D., 2017.

Corporate  
Seals  
Affixed



WESTFIELD INSURANCE COMPANY  
WESTFIELD NATIONAL INSURANCE COMPANY  
OHIO FARMERS INSURANCE COMPANY

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

State of Ohio  
County of Medina ss:

On this 04th day of APRIL, A.D., 2017, before me personally came Dennis P. Baus to me known, who, being by me duly sworn, did depose and say, that he resides in Wooster, Ohio; that he is National Surety Leader and Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies, and that he signed his name thereto by like order.

Notarial  
Seal  
Affixed



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

State of Ohio  
County of Medina ss:

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

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this 18th day of March, A.D., 2021.



*Frank A. Carrino*  
Frank A. Carrino, Secretary





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

03/11/2021

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

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

<b>PRODUCER</b> AssuredPartners of West Virginia, LLC 1 Insurance Way; PO Box 10  Ona WV 25545	<b>CONTACT NAME:</b> Brenda Kash <b>PHONE (A/C, No, Ext):</b> (304) 736-2222 <b>E-MAIL ADDRESS:</b> brenda.kash@assuredpartners.com	<b>FAX (A/C, No):</b> (304) 302-3401
	<b>INSURER(S) AFFORDING COVERAGE</b>	
<b>INSURED</b> Tribute Contracting & Consultants LLC 2125 County Road 1  South Point OH 45680	<b>INSURER A :</b> The Phoenix Insurance Co	25623
	<b>INSURER B :</b> Travelers Prop Cas Co of Ameri	25674
	<b>INSURER C :</b> Travelers Indemnity Co of CT	25682
	<b>INSURER D :</b>	
	<b>INSURER E :</b>	

**COVERAGES**                      **CERTIFICATE NUMBER:** CL209808013                      **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	Y		CO-7N893214-PHX-20	09/08/2020	09/08/2021	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 Employee Benefits \$ 1,000,000
A	<input checked="" type="checkbox"/> <b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY	Y		810-7N899728-20-26-G	09/08/2020	09/08/2021	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ Medical payments \$ 5,000
B	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED      RETENTION \$			CUP-7N907874-20-26	09/08/2020	09/08/2021	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000
C	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	UB-9N401115-20-26-G	09/08/2020	09/08/2021	<input checked="" type="checkbox"/> PER STATUTE    OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
B	Rented/Leased Equipment Cov Installation Floater			QT-660-9N520952-TIL-20	09/08/2020	09/08/2021	Rented/Leased Eqpt \$500,000 Installation Floater \$1,000,000

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

LFUCG and GRW Engineers, Inc. are listed additional insured on the general liability and automobile with respect to work performed by named insured on the following project:

Contract 1: Wolf Run Trunk Sewers D & E.

30 Day Cancellation notice provided

**CERTIFICATE HOLDER****CANCELLATION**

Lexington-Fayette Urban County Government  
200 East Main St., 3rd Floor

Lexington

KY 40507

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

AUTHORIZED REPRESENTATIVE

*Brenda Kash*

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1.03 EROSION AND SEDIMENT CONTROL PERFORMANCE BOND

EROSION AND SEDIMENT CONTROL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

\_\_\_\_\_  
Tribute Contraction and Consultants, LLC  
(Name of CONTRACTOR)

\_\_\_\_\_  
2125 County Road 1, South Point, OH 45680  
(Address of CONTRACTOR)

a \_\_\_\_\_, hereinafter  
Corporation  
(Corporation, Partnership, or Individual)

called Principal, and \_\_\_\_\_  
Ohio Farmers Insurance Company  
(Name of Surety)

\_\_\_\_\_  
1 Park Circle, Westfield Center, OH 44251  
(Address of Surety)

hereinto called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
200 East Main Street, Third Floor  
Lexington, Kentucky 40507

Obligee, hereinafter called "OWNER" in the penal sum of:

[1% of Total Bid Price] Thirty Thousand Two Hundred Ten dollars (\$30,210.00), for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for the Wolf Run Trunk Sewers D & E Wastewater System Improvements Project, LFUCG Bid No. 132-2020 in accordance with Contract Documents prepared by GRW Engineers, Inc. and dated March 18, 2021, which Agreement (Contract) is by reference made a part hereof, and is hereinafter referred to as the Agreement (Contract).

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly and faithfully perform said Agreement (Contract), then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever, Principal shall be, and declared by OWNER to be in default under the Agreement (Contract), the OWNER having performed OWNER's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the installation, maintenance, and removal of the soil erosion and sediment controls and final stabilization of the site in accordance with the Agreement (Contract), the LFUCG Land Disturbance Permit, Chapter 16 Article X Division 5 of the LFUCG Code of Ordinances, and the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR 10).

2. Obtain a Bid or Bids for completing the installation, maintenance, and removal of the soil erosion and sediment controls and final stabilization of the site in accordance with the Agreement's (Contract's) terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for an Agreement (Contract) between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Agreement (Contract) or Agreements (Contracts) of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Agreement (Contract) Amount; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Agreement (Contract) Amount", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Agreement (Contract) and any amendments hereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration one (1) year from the date on which final payment under the Agreement (Contract) falls due.


No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators or successors of OWNER.

IN WITNESS WHEREOF, this instrument is executed in Six (6) counterparts, each one of (number)

which shall be deemed an original, this the 18 day of March, 2021.

ATTEST:

Tribute Contracting and Consultants, LLC  
Principal

  
(Principal) Secretary  
Steven D. Whaley

By:  (s)  
Todd Harrah

2125 County Road 1  
Address

South Point, OH 45680

  
Witness as to Principal

505 2nd St E  
Address

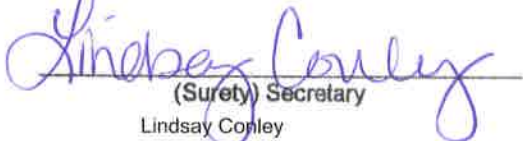
South Point, OH 45680

Ohio Farmers Insurance Company  
Surety

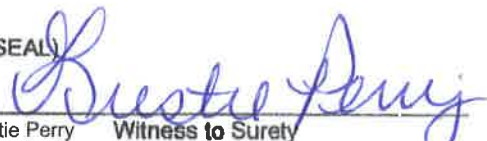
By:   
Attorney-in-Fact Brenda J. Kash

1 Park Circle, Westfield Center, OH 44251  
Address

ATTEST:

  
(Surety) Secretary  
Lindsay Conley


(SEAL)

  
Kristie Perry Witness to Surety

One Insurance Way  
Address

Ona WV 25545

Title: Attorney-In-Fact  
Surety

By:   
Tara Shoemaker

Title: Agent

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Agreement (Contract).

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 04/04/17, FOR ANY PERSON OR PERSONS NAMED BELOW.

General Power of Attorney

POWER NO. 4750592 01

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

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint C. DAVID ROBINSON, BRENDA J. KASH, ZACHARY R. KELLER, PATRICIA G. STUTLER, TARA SHOEMAKER, JOINTLY OR SEVERALLY

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

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

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

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

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

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

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereto affixed this 04th day of APRIL A.D. 2017.

Corporate Seals Affixed



WESTFIELD INSURANCE COMPANY WESTFIELD NATIONAL INSURANCE COMPANY OHIO FARMERS INSURANCE COMPANY

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

State of Ohio County of Medina ss:

On this 04th day of APRIL A.D. 2017, before me personally came Dennis P. Baus to me known, who, being by me duly sworn, did depose and say, that he resides in Wooster, Ohio; that he is National Surety Leader and Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals, that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial Seal Affixed



David A. Kotnik, Attorney at Law, Notary Public

My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

State of Ohio County of Medina ss:

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

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this 18th day of March A.D. 2021



Frank A. Carrino, Secretary

**SECTION 00700 – GENERAL CONDITIONS**

(This page is intentionally left blank).

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE  
*A Practice Division of the*  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

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

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.



51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

## 1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

### B. *Intent of Certain Terms or Adjectives:*

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

### C. *Day:*

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

### D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:

- a. does not conform to the Contract Documents; or
- b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

- c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

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

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
  3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
  4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## ARTICLE 2 – PRELIMINARY MATTERS

### 2.01 *Delivery of Bonds and Evidence of Insurance*

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

### 2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

### 2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the

Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

#### 2.04 *Starting the Work*

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

#### 2.05 *Before Starting Construction*

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

#### 2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

#### 2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete

and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

### **ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE**

#### **3.01 Intent**

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

#### **3.02 Reference Standards**

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

the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

### 3.03 *Reporting and Resolving Discrepancies*

#### A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

#### B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
  - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
  - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

### 3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
1. A Field Order;
  2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
  3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

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

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

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

4.01 *Availability of Lands*

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

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
  - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
  - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
  - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

#### 4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
  1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
  2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.



- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

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

## **ARTICLE 5 – BONDS AND INSURANCE**

### **5.01 *Performance, Payment, and Other Bonds***

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

### **5.02 *Licensed Sureties and Insurers***

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also

meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

#### 5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

#### 5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
  - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
  - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
  - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
  - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

#### 5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
  2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

#### 5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

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

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

interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

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

**ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES**

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
  - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

#### 6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
  - 1. "*Or-Equal*" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that:
      - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

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

#### 13.05 *Owner May Stop the Work*

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

#### 13.06 *Correction or Removal of Defective Work*

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

#### 13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract



Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
  2. correct such defective Work; or
  3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
  4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

#### 13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's

recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

#### 13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

### **ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION**

#### 14.01 *Schedule of Values*

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

## 14.02 *Progress Payments*

### A. *Applications for Payments:*

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

### B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
  - a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
  - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
  - a. to supervise, direct, or control the Work, or
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
  - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
  - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
  - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

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

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
  - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
  - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
  - c. there are other items entitling Owner to a set-off against the amount recommended; or
  - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

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

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

#### 14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
  - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
  - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

#### 14.06 *Final Inspection*

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

#### 14.07 *Final Payment*

##### A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
  - b. consent of the surety, if any, to final payment;
  - c. a list of all Claims against Owner that Contractor believes are unsettled; and
  - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid

or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

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

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

*C. Payment Becomes Due:*

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

*14.08 Final Completion Delayed*

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

*14.09 Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
  1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees



specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

## **ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION**

### **15.01 *Owner May Suspend Work***

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

### **15.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will justify termination for cause:
  1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
  2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
  3. Contractor's repeated disregard of the authority of Engineer; or
  4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
  1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
  2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
  3. complete the Work as Owner may deem expedient.

- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
  - 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
  - 4. reasonable expenses directly attributable to termination.

- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

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

**ARTICLE 16 – DISPUTE RESOLUTION**

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
  - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
  - 2. agrees with the other party to submit the Claim to another dispute resolution process; or
  - 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

## ARTICLE 17 – MISCELLANEOUS

### 17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
  2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

### 17.02 *Computation of Times*

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

### 17.03 *Cumulative Remedies*

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

### 17.04 *Survival of Obligations*

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

### 17.05 *Controlling Law*

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

### 17.06 *Headings*

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

## **0SECTION 00800 – SUPPLEMENTARY CONDITIONS**

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700) (2007 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

### **ARTICLE 1 – DEFINITIONS AND TERMINOLOGY**

#### **1.01 Defined Terms**

##### **1.01.A.12 Replace in its entirety with the following:**

“12. Contract Documents – The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), Contractor’s Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and Engineer’s written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or Hardcopies of the items listed in this paragraph are Contract Documents. Files in electronic format of text, data, graphics, and the like that may be furnished by Owner to Contractor are not Contract Documents”.

##### **1.01.A.44 First sentence, change: “in the opinion of the Engineer”, to “in the opinion of Engineer and Owner”.**

#### **1.02 Terminology**

Delete 1.02.E and replace with the following:

##### **1.02.E The words “furnish”, “furnish and install”, “install”, and “provide” or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean “furnish and install complete in place and ready for service”.**

Add the following:

##### **1.02.G The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (EJCDC C-700, (2007 Edition) have the meanings assigned to them in the General Conditions.**

### **ARTICLE 2 – PRELIMINARY MATTERS**

Add the following:

#### **2.00 Execution of Agreement**

##### **2.00.A At least six (6) counterparts of the Agreement will be executed and delivered by the Contractor to the OWNER within fifteen (15) days of the Notice of Award and receipt of the Contract Documents by the Contractor for execution; and OWNER will execute and deliver one counterpart to Contractor within ten (10) days of receipt of the executed Agreement from Contractor.**

#### **2.01 Delivery of Bonds and Evidence of Insurance**

- 2.01.B Replace "Before any Work at the Site is started, Contractor and Owner shall each deliver to the other" with "When Contractor delivers the executed counterparts of the Agreement to the Owner, Contractor shall deliver to the Owner", and replace "and Owner respectively are" with "is".
- 2.02 Copies of Documents
- 2.02A Revise as follows:
- Owner shall furnish to Contractor up to ~~ten~~ three printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.
- 2.03 Commencement of Contract Times; Notice to Proceed:
- 2.03.A Delete in its entirety and substitute the following:
- 2.03.A The Contract Time will commence to run on the day indicated in the Notice to Proceed; but in no event will the Contract Time commence to run later than the ninetieth day after the day of Bid opening or the thirtieth day after the effective date of the Agreement. By mutual consent of the parties to the Contract, these time limits may be changed.

### ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING AND REUSE

#### 3.01 Intent

Add the following:

- 3.01.D It is the intent of the Specification and Contract Documents to obtain an operable Project. Equipment, components, systems, etc., therein shall be made operable by the Contractor.
- 3.01.E The Contract Drawings may be supplemented from time to time with additional Drawings by the Engineer as may be required to illustrate the work or, as the work progresses, with additional Drawings, by the Contractor, subject to the approval of the Engineer. Supplementary Drawings, when issued by the Engineer or by the Contractor, after approval by the Engineer, shall be furnished in sufficient quantity to all those who, in the opinion of the Engineer, are affected by such Drawings.

#### 3.03 Reporting and Resolving Discrepancies

Add the following:

- 3.03.B.2 In resolving such conflicts, errors and discrepancies, the Contract Documents shall be given precedence in the following order:
- a. Agreement
  - b. Field and Change Orders
  - c. Addenda
  - d. Special Conditions
  - e. Instruction to Bidders
  - f. General Conditions
  - g. Project Specifications and Drawings
  - h. LFUCG standard specifications and standard details

Figure dimensions on drawings shall govern over scale dimensions and detailed Drawings shall govern over general Drawings.

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

- 4.02 Subsurface and Physical Conditions
- 4.02.A Delete: “the Supplementary Conditions”, and substitute “Section 00320 – Geotechnical Data”.
- 4.02.B Second sentence, delete: “Supplementary Conditions” and substitute “Specifications and Contract Drawings”.
- 4.04 Underground Facilities

Add the following:

- 4.04.B.3 The Owner, Engineer, and Engineer’s Consultants shall not be liable to Contractor for any claims, costs, losses or damages incurred or sustained by Contractor on or in connection with any other project or anticipated project.
- 4.06 Hazardous Environmental Condition at Site
- 4.06.A First sentence, delete “Supplementary Conditions” and substitute “Section 00300 – Information Available To Bidders.”
- 4.06.B Second sentence, delete “Supplementary Conditions: and substitute “Specifications and Contract Drawings.”
- 4.06.G First sentence, insert “Kentucky” between “by” and “Laws”.

Add the following at the end of this section: “The parties understand and acknowledge that no Kentucky case, statute, or Constitutional provision authorizes a local government to indemnify a contractor and that this contract provision may be unenforceable.

ARTICLE 5 – BONDS AND INSURANCE

Delete Article 5 in its entirety and substitute the following:

- 5.01 Performance and Payment Bonds
- 5.01A Concurrent with execution of the Agreement and within fifteen (15) days of the Notice of Award, the successful Contractor shall procure, execute and deliver to the OWNER and maintain, at his own cost and expense, the following bonds in the forms attached, of a surety company approved by the State of Kentucky as a Surety:
- 5.01.B Performance Bond – in an amount not less than 100% of the total amount payable to the Contractor by the terms of the Contract as security for the faithful performance of the work. Bond must be valid until one (1) year after the date of issuance of the Certificate of Substantial Completion.
- 5.01.C Payment Bond – in an amount not less than 100% of the total amount payable to the Contractor by the terms of the Contract as security for the payment of all persons performing labor and furnishing material in connection with the work. Bond must be valid until one (1) year after date of issuance of the Certificate of Substantial Completion.
- 5.01.D All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

- 5.01.E If the Surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business in the State of Kentucky is revoked, the Contractor shall within five (5) days thereafter substitute another Bond or Surety, both of which shall be acceptable to the OWNER.
- 5.02 Insurance Requirements  
See Section 00600 – Bonds and Certificates for Insurance Requirements.
- 5.03 Contractor’s Liability Insurance  
See Section 00600 – Bonds and Certificates for Insurance Requirements.
- 5.04 Indemnification Agreement  
See Section 00600 – Bonds and Certificates for Indemnification.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

- 6.06 Concerning Subcontractors, Suppliers and Others
- 6.06.B First sentence, delete: “If the Supplementary Conditions”, and substitute “The Bid Form”. The seventh line, delete “Supplementary Conditions”, and substitute “Bid Form”.
- 6.06.G Delete in its entirety and substitute the following:
- 6.06.G All work performed for Contractor by a Subcontractor shall be pursuant to an appropriate agreement between the Contractor and Subcontractor. The Subcontractor shall not commence work until Contractor has obtained all insurance as required by Paragraphs 5.02 through 5.03 inclusive.
- 6.07 Patent Fees and Royalties
- 6.07 Delete 6.07.A, 6.07.B, and 6.07.C in their entirety and substitute the following:
- 6.07.A Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work of any invention, design, process, products or device which is the subject of patent rights or copyrights held by others. Contractor shall indemnify and hold harmless OWNER and Engineer and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses, including attorney’s fees, arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or furnished by him in fulfillment of the requirements of this Contract. In the event of any claim or action by law on account of such patents or fees, it is agreed that the OWNER may retain out of the monies which are or which may become due the Contractor under this Contract, a sum of money sufficient to protect itself against loss, and to retain the same until said claims are paid or are satisfactorily adjusted.
- 6.08 Permits
- 6.08.A Third sentence of paragraph delete, “or if there are no Bids.....to the Work.”, and substitute “and the Contractor shall pay all charges of utility owners for connections to the Work.”
- 6.09 Laws and Regulations
- 6.09.B Delete 6.09B in its entirety and substitute the following:
- 6.09.B If Contractor observes that the Specifications or Drawings are at variance with any Laws or Regulations, he shall give Engineer prompt written notice thereof. If Contractor performs



any Work knowing it to be contrary to such Laws or Regulations, and without such notice to Engineer, he shall bear all costs arising therefrom. The Contractor shall, at all times, observe and comply with and shall cause all his agents and employees and all his Subcontractors to observe and comply with all such existing Laws or Regulations, and shall protect and indemnify the OWNER and the Engineer and the municipalities in which work is being performed, and their officers and agents against any claim, civil penalty, fine or liability arising from or based on the violation of any such Law or Regulation, whether by himself or his employees or any of his Subcontractors.

6.13 Safety and Protection

6.13.B First sentence, after "CONTRACTOR" add the following:

" , subject to provisions 6.09.B,"

6.19 Contractor's General Warranty and Guarantee

6.19.A After the first sentence of Section 6.19.A add the following:

"All materials or equipment delivered to the site shall be accompanied by certificates, signed by an authorized officer of the supplier, and notarized guaranteeing that the materials or equipment conform to specification requirements, Such certificates shall be immediately turned over to the Engineer. Materials or equipment delivered to the site without such certificates will be subject to rejection. The warranty and guarantee period shall be for a period of one (1) year, or such longer period of time as may be prescribed by Law, from the date of Substantial Completion."

6.20 Indemnification

6.20.A First sentence, after "...claims, costs" add the following:

" , civil penalties, fines,"

6.20.C Add the following:

6.30.C.3 Nothing in the Contract Documents shall create or give to third parties any claim or right of action against the Contractor, the OWNER or the Engineer beyond such as may legally exist irrespective of the Contract.

ARTICLE 7 – OTHER WORK AT THE SITE

7.02 Coordination

Delete in its entirety.

7.03 Legal Relationships

7.03.B Delete "Owner and".

7.03.C Delete "Owner and".

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.02 Replacement of Engineer

8.02.A Delete in its entirety.

- 8.06 Insurance
- 8.06.A Delete in its entirety.
- 8.11 Evidence of Financial Arrangements
- 8.11.A Delete in its entirety.

#### ARTICLE 9 – ENGINEER’S STATUS DURING CONSTRUCTION

- 9.01 OWNER’S Representative
- 9.01.A Delete in its entirety and substitute the following:
- 9.01.A Engineer will be the OWNER’S representative during the construction period, and his instructions shall be carried into effect promptly and efficiently.
- 9.03 Project Representative

Add the following:

- 9.03.B The Resident Project Representative will serve as the Engineer’s liaison with the Contractor, working principally through the Contractor’s resident superintendent to assist him in understanding the intent of the Contract Documents.
- 9.03.C The Resident Project Representative shall conduct on-site observations of the work in progress to confirm that the work is proceeding in accordance with the Contract Documents. He will verify that tests, equipment and systems start-ups and operating maintenance instructions are conducted as required by the Contract Documents. He will have the authority to disapprove or reject defective work in accordance with Article 13.
- 9.09 Limitations on Engineer’s Authority and Responsibilities

Add the following:

- 9.09.F Except upon written instructions of the Engineer, the Resident Project Representative:
1. Shall not authorize any deviation from the Contract Documents or approve any substitute materials or equipment.
  2. Shall not exceed limitations of Engineer’s authority as set forth in the Contract Documents.
  3. Shall not undertake any of the responsibilities of Contractor, Subcontractors, or Contractor’s superintendent, or expedite the Work.
  4. Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract.
  5. Shall not advise on or issue directions as to safety precautions and programs in connection with the Work.

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

- 11.01 Cost of the Work

- 11.01.A Last sentence, following "...in Paragraph 11.01.B," insert the following:  
"or claims for extra cost shall be considered based on an escalation of labor costs throughout the period of the Contract,"
- 11.01.A.2 Add the following at the end of the paragraph:  
"No claims for extra cost shall be considered based on an escalation of material costs throughout the period of the Contract."
- 11.01.A.3 Delete second sentence "If required...be acceptable."
- 11.01.A.4 Delete in its entirety.
- 11.01.A.5.a Delete in its entirety.
- 11.01.A.5.c Add the following before last sentence of paragraph:  
"These rates shall include all fuel, lubricants, insurance, etc. Equipment rental charges shall not exceed the prorated monthly rental rates listed in the current edition of the 'Compilation of Rental Rates for Construction Equipment' as published by the Associated Equipment Distributors. Charges per hour shall be determined by dividing the monthly rates by 176."
- 11.01.A.5.f Delete in its entirety.
- 11.01.A.5.g Delete in its entirety.
- 11.01.A.5.h Delete in its entirety.
- 11.03 Unit Price of Work:
- 11.03.D.1 Delete "materially and significantly", and insert "by more than plus or minus twenty percent (20%)".

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

- 12.01 Change of Contract Price
- 12.01.A Add the following after the last sentence:  
Section 01025 shall be given precedence over section 00700 in regards to changes in contract price.
- 12.03 Delays
- 12.03.B Delete in its entirety and substitute the following:
- 12.03.B Delays beyond the control of the Contractor, as provided in paragraph 12.03.A, shall not entitle the Contractor to obtain additional project overhead costs unless such delays extend the Project as described below:
1. beyond the original Contract Times,
  2. beyond the Contract Times for which the overhead costs have been previously approved, or
  3. beyond Contract Times that are extended as a result of delays described in 12.03.C.

For the purpose of this paragraph, overhead costs shall be the supplemental costs defined in 11.01.A.5, paragraphs a, b, c, g, h and i. The Contractor's bid shall include all overhead costs as necessary to be on the Project for the original Contract Times.

12.03.C Add the following after the last sentence:

If the Contractor and the Owner cannot agree upon an equitable adjustment in the Contract Times, delays described in this Paragraph 12.03.C shall be determined as follows:

1. Contractor shall obtain weather history for the most recent five (5) years (minimum) preceding the Bid date. Weather history shall be obtained from the National Oceanic & Atmospheric Administration (NOAA) or other source approved by the Engineer. Historical weather shall be based on data from the weather reporting station closest to the project site.
2. For delays to be considered that are associated with an abnormal amount of rain, the Contractor shall use the weather history to calculate an average number of days that rainfall exceeded 0.1-inches for the period (month, quarter, year, etc.) in question. The average value calculated shall be rounded up to the next full day. A time extension may be considered equal to the number of days, above the calculated average, that the period in question experienced rainfall in excess of 0.1-inches. A Contract Time extension will not be considered for rain amounts less than 0.1-inches.
3. For daily rain amounts in excess of 1-inch, a time extension of one day beyond the number of days calculated as described above may be considered.
4. For delays associated with other abnormal weather events, the weather history shall be used to calculate an average number of days for the type of weather considered to be the cause of a delay. (Calculation of the average number of days shall be as described above.) Where the Contractor can demonstrate that the abnormal weather event has impaired his ability to perform work, beyond the day of the abnormal event, to perform site maintenance as necessary to restore the site to a workable condition may be considered.

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

13.03 Tests and Inspections

13.03.B Delete in its entirety and substitute the following:

13.03.B Contractor shall employ and pay for inspections and testing services specifically noted as such in the Contract.

13.03.C Delete in its entirety and substitute the following:

13.03.C If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to be specifically inspected, tested, or approved by some public body, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish Engineer the required certificates of inspection, testing or approval.

Add the following:

13.03.G The OWNER reserves the right to independently perform at its own expense, laboratory tests on random samples of material or performance tests on equipment delivered to the site. These tests if made will be conducted in accordance with the appropriate referenced standards or Specification requirements. The entire shipment represented by a given

sample, samples or piece of equipment may be rejected on the basis of the failure of samples or pieces of equipment to meet specified test requirements. All rejected materials or equipment shall be removed from the site, whether stored or installed in the Work, and the required replacement shall be made, all at no additional cost to the OWNER.

13.05 OWNER May Stop the Work:

13.05A First sentence, after "...conform to the Contract Documents", insert "or if the Work interferes with the operation of the existing facility".

13.06 Correction or Removal of Defective Work

Add the following:

13.06.C At any time during the progress of the Work and up to the date of final acceptance, the Engineer shall have the right to reject any work which does not conform to the requirements of the Contract Documents, even though such work has been previously inspected and paid for. Any omissions or failure on the part of the Engineer to disapprove or reject any Work or materials at the time of inspection shall not be construed as an acceptance of any defective work or materials.

#### ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

Add the following:

14.01.B The Contractor shall submit for the Engineer's approval, a complete breakdown of all Lump Sum Items in the Proposal. This breakdown, modified as directed by the Engineer, will be used as a basis for preparing estimates and establishing progress payments.

14.02 Progress Payments

14.02.A.3 Delete in its entirety and replace with the following:

14.02.A.3 Progress payment request shall include the percentage of the total amount of the Contract which has been completed from initiation of construction of the Project to and including the last day of the preceding month, or other mutually agreed upon day of the month accompanied by such data and supporting evidence as OWNER or Engineer may require.

Add the following:

14.02.A.4 Forms to be used shall be prepared by the Contractor and submitted to the Engineer for approval.

14.02.A.5 At the option of the OWNER, partial payment up to the estimated value, less retainage, may be allowed for any materials and equipment not incorporated in the Work, pursuant to the following conditions:

- a. Equipment or materials stored on the site shall be property stored, protected and maintained.
- b. For any partial payment the Contractor shall submit, with his monthly progress payment from each material or equipment manufacturer, bills or invoices indicating actual material cost.
- c. Contractor shall submit evidence that he has paid for materials or equipment stored and for which the Engineer has authorized partial payment and previous progress

payments, prior to submission to the next monthly payment request. (See example letter at the end of this Section 00800).

- 14.02.A.6 The OWNER will retain ten percent (10%) of the amount of each such estimate until Work covered by the Contract is fifty percent (50%) complete. After fifty percent (50%) of the Work of the original Contract has been completed as evidenced by approved Partial Payment Requests exclusive of stored materials and in the opinion of the OWNER, satisfactory progress is being made, the OWNER may adjust future partial payment so that five percent (5%) of the original Contract Price is retained.
- 14.02.A.7 If the OWNER determines it is appropriate to reduce retainage, the method used for such adjustment shall be to fix retainage at five percent (5%) of the original Contract amount (when the work is 50% complete) and to pay all subsequent Partial Payment Requests to the full approved amount. The intent of such an adjustment is to gradually reduce retainage to five percent (5%) of the original Contract amount when the work is one hundred percent (100%) complete.
- 14.02.A.8 The OWNER may reinstate up to ten percent (10%) retainage if it is determined that the Contractor is not making satisfactory progress or there is other specific cause for retainage.
- 14.02.B.1 Review of Applications:  
First sentence, delete "10 days", insert "30 days".
- 14.02.C.1 Payment Becomes Due:  
First sentence, delete "Ten days" and insert "Thirty Days".
- 14.02.D.3 Delete in its entirety.
- 14.04 Substantial Completion
- 14.04 Delete paragraphs A, B, C, and D in their entirety and substitute the following:
- 14.04.A Contractor may, in writing to OWNER and Engineer, certify that the entire project is substantially complete 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 Project to determine the status of completion. If Engineer and OWNER do not consider the Project substantially complete, Engineer will notify Contractor in writing giving his reasons therefore. If Engineer and OWNER consider the Project substantially complete, Engineer will prepare and deliver to OWNER a tentative certificate of Substantial Completion and the responsibilities between OWNER and Contractor for maintenance, heat and utilities. There shall be attached to the certificate a tentative list of items to be completed or corrected before Substantial Completion, and the certificate shall fix the time within which such items shall be completed or corrected, said time to be within Contract Time.
- 14.04.B In accordance with KRS 371.410, Substantial Completion is the point at which, as certified in writing by the contracting entity, a project is at the level of completion, in strict compliance with the contract, where:
1. Necessary approval by public regulatory authorities has been given;
  2. The Owner has received all required warranties and documentation; and
  3. The Owner may enjoy beneficial use or occupancy and may use, operate, and maintain the project in all respects, for its intended purpose.

14.05 Partial Utilization

14.05.A Delete in its entirety and substitute the following:

- 14.05.A Prior to Substantial Completion of the Project, OWNER may request Contractor in writing to permit him to use a specified part of the Project which he believes he may use without significant interference with construction of the other parts of the Project. If Contractor agrees, he will certify to OWNER and Engineer that said part of the Project is substantially complete and request the Engineer to issue a certificate of Substantial Completion for that part of the Project. Within a reasonable time thereafter, OWNER, Contractor and Engineer shall make an inspection of that part of the Project to determine its status of completion. If Engineer and OWNER do not consider that it is substantially complete, Engineer will notify Contractor in writing giving his reasons therefor. If Engineer and OWNER consider that part of the Project to be substantially complete, Engineer will execute and deliver to OWNER and Contractor a certificate to that effect, fixing the date of Substantial Completion as to that part of the Project, attaching thereto a tentative list of items to be completed or corrected before Substantial Completion of the entire Project and fixing the responsibility between OWNER and Contractor for maintenance, heat, and utilities as to that part of the Project. OWNER shall have the right to exclude Contractor from any part of the Project which Engineer has so certified to be substantially complete, but OWNER shall allow Contractor reasonable access to complete items on the tentative list.
- 14.05.B Equipment Warranty will not begin until after successful start-up, training, and acceptance by Owner for Partial Utilization. Any manufacturer's request to initiate warranty period earlier than Owner's acceptance will not be valid.

#### ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

##### 15.01 Owner May Suspend Work

Add the following:

- 15.01.B Should the OWNER suspend Work due to repeated unsafe Work conducted by the Contractor which is confirmed by subsequent inspection by OSHA, the Contractor shall not be allowed any adjustment in Contract Price or extension of Contract Time attributed to the delay.

##### 15.02 Owner May Terminate for Cause

- 15.02.A.2 Add the following to the end of first sentence after "jurisdiction":

"(including those governing employee safety)"

- 15.02D Delete in its entirety.

Add the following:

##### 15.05 Assignment of Contract

- 15.05 Contractor shall not assign, transfer, convey or otherwise dispose of the Contract, or of his legal right, title, or interest in or to the same or to any part thereof, without the prior written consent of the OWNER. Contractor shall not assign by power of attorney or otherwise any monies due him and payable under this Contract without the prior written consent of the OWNER. Such consent, if given, will in no way relieve the Contractor from any of the obligations of this Contract. OWNER shall not be bound to abide by or observe the requirements of any such assignment.

#### ARTICLE 16 – DISPUTE RESOLUTION

##### 16.01 Methods and Procedures

16.01.A Replace the first sentence with the following:

“If required by applicable laws and regulations, and not specifically excluded elsewhere, either OWNER or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding.”

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

Add the following:

17.01.B No oral statement of any person whomsoever shall in any manner or degree modify or otherwise affect the terms of this Contract. Any notice to the Contractor, form OWNER and Engineer, relative to any part of this Contract shall be in writing.

Add the following:

17.07 Claims for Injury or Damage

17.07.A Should OWNER or Contractor suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 17.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

17.08 Non-Discrimination in Employment

17.08.A The Contractor shall comply with the following requirements prohibiting discrimination:

17.08.A.1 That no person (as defined in KRS 344.010) shall Bid on Lexington-Fayette Urban County Government Construction projects, or bid to furnish materials or supplies to the Lexington-Fayette Urban County Government, if, within six months prior to the time of opening of Bids, said person shall have been found, by declaratory judgment action in Fayette Circuit Court, to be presently engaging in an unlawful practice, as hereinafter defined. Such declaratory judgment action may be brought by an aggrieved individual or upon an allegation that an effort at conciliation pursuant to KRS 344.200 has been attempted and failed, by the Lexington-Fayette County Human Rights Commission.

17.08.A.2 That it is an unlawful practice for any employer:

- a. to fail or refuse to hire, or to discharge any individual or otherwise to discriminate against an individual, with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, age, or national origin; or
- b. to limit, segregate or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee because of such individual's sex, race, color, religion, age, or national origin.

17.08.A.3 That it is unlawful practice for an employer, labor organization, or joint-labor management committee controlling apprenticeship or other training or retraining, including on-the-job training programs to discriminate against an individual because of his race, color, religion,



sex, age, or national origin in admission to, or employment in, any program established to provide apprenticeship or other training.

- 17.08.A.4 That a copy of the LFUCG Ordinance shall be available for viewing at the Lexington-Fayette Urban County Government offices.
- 17.09 Temporary Street Closing or Blockage
  - 17.09.A The Contractor will notify the Engineer, Owner, and LFUCG Division of Traffic Engineering at least 72 hours prior to making any temporary street closing or blockage. This will permit orderly notification to all concerned public agencies.
- 17.10 Percentage of Work Performed by Prime Contractor
  - 17.10.A The Contractor shall perform on site, and with its own organization, Work equivalent to at least fifty percent (50%) of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the Contractor requests a reduction and the Engineer determines that the reduction would be to the advantage of the OWNER.
- 17.11 Clean-Up
  - 17.11.A Clean-up shall progress, to the greatest degree practicable, throughout the course of the Work. The Work will not be considered as completed, and final payment will not be made, until the right-of-way and all ground occupied or affected by the Contractor in connection with the Work has been cleared of all rubbish, equipment, excess materials, temporary structures, and weeds. Rubbish and all waste materials of whatever nature shall be disposed of, off of the project site, in an acceptable manner. All property, both public and private, which has been damaged in the prosecution of the Work, shall be restored in an acceptable manner. All areas shall be draining, and all drainage-ways shall be left unobstructed, and in such a condition that drift will not collect or scour be induced.
- 17.12 General
  - 17.12.A The duties and obligations imposed by the Contract Documents and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor, and all of the rights and remedies available to OWNER and Engineer, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.
- 17.13 Debris Disposal
  - 17.13.A For all LFUCG projects any fill, trash, construction demolition debris, yard waste, dirt or debris of any kind that is removed from the project site must be disposed of in accordance with local, state, and federal regulations. The disposal site or facility must be approved in advance by the LFUCG and disposal documentation is required. The Contractor will be responsible for payment of any fines associated with improper disposal of material removed from the project site.
- 17.14 Maintenance of Traffic

- 17.14.A Traffic shall be maintained on state and LFUCG highways and streets at all times during construction. For all work that impacts traffic, the Contractor shall obtain a traffic permit at least two (2) working days in advance from the Division of Traffic Engineering (859) 258-3489.
- 17.14.B It shall be the Contractor's responsibility to notify LFUCG Police Department's Safety Officer (859) 258-3600 prior to performing any construction work, which might interfere with traffic or compromise the public safety.

Add the following:

ARTICLE 18 – LIQUIDATED DAMAGES FOR FAILURE TO COMPLETE WORK ON TIME

18.01 Liquidated Damages

- 18.01.A If the Contractor shall fail to complete the Work within the Contract Time, or extension of time granted by the OWNER in accordance with Article 12, then the Contractor will pay to the OWNER the amount for liquidated damages as specified in the Contract for each calendar day that the Contractor shall be in default after the time stipulated in the Contract Documents.

(Reference Section 00800, Article 14.02.A.5.c)

\*\*\*PUT ON CONTRACTOR'S LETTERHEAD\*\*\*

DATE: \_\_\_\_\_

TO: OWNER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

RE: Project Title: Wolf Run Trunk Sewers D & E  
Wastewater System Improvements  
Lexington Fayette Urban County Government  
Lexington, Kentucky  
LFUCG Bid No.: 132-2020

We hereby certify that the labor and materials listed on this request for payment have been used in the construction of this work, or that all materials included in this request for payment and not yet incorporated into the construction are now on the site or stored at an approved location with proper insurance to protect these stored materials; and that all lawful charges for labor, materials etc., covered by previous Certificates of Payment have been paid and that all other lawful charges on which this request for payment is based have been paid for in full or will be paid for in full from the funds received in payment of this request within ten (10) calendar days from receipt of this partial payment from the OWNER.

CONTRACTOR: \_\_\_\_\_

BY: \_\_\_\_\_

TIME: \_\_\_\_\_

State of: \_\_\_\_\_

County of: \_\_\_\_\_

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public (Seal)

My Commission Expires: \_\_\_\_\_

END OF SECTION

## **SECTION 00890 – PERMITS**

### **1.01 JOB SPECIFIC PERMITS**

The following permits were obtained for the project:

- Department of Environmental Protection – Development in a Floodplain General Permit
- U.S. Army Corps of Engineers – Nation Wide Permit #12
- KY Division of Water – Sewer Line Construction

END OF SECTION

# General Permit

# DEVELOPMENT ALONG OR ADJACENT TO A STREAM

## Development in a Floodplain General Permit

Permit Number: KY FPGP

AI No.: 35050

Pursuant to Authority established in KRS Chapter 151,

Development activities that occur in a floodplain for the base flood event and that meet the eligibility requirements of this permit,

are authorized along or adjacent to a stream in areas located within the 120 counties of the Commonwealth of Kentucky,

in accordance with the requirements of 401 KAR 4:060, and other conditions set forth in this permit.

This permit shall become effective on 7/1/2020.

This permit and the authorization shall expire 6/30/2025.

6/27/20

Date Signed

*Paul Miller, PE*

Paul Miller, Director

Division of Water

DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
Division of Water, 300 Sower Blvd, Frankfort, Kentucky 40601

Printed on Recycled Paper

## 1. PERMIT COVERAGE

Coverage under this General Permit issued by the Kentucky Division of Water (the "Division"), allows for development activities along or adjacent to a stream, that meet the eligibility requirements established in this permit, and that do not increase the Base Flood Elevation in any community.

Development meeting the requirements of this General Permit shall have automatic coverage under this general permit without making application or submitting plans and specifications to the Division.

Proposed development with the potential to change the Base Flood Elevation shall require an application for an Individual Floodplain Development Permit to Construct Along or Across a Stream pursuant to 401 KAR 4:060.

The property owner or entity employed to develop the property (the "Permittee"), and who is authorized for coverage under this General Permit by the Division, is exempt from public notice requirements as long as the development is conducted in accordance with the requirements of this General Permit.

This General Permit is issued pursuant to KRS 151.250 and 401 KAR 4:060 regarding stream obstruction only and does not constitute certification of any other aspect of proposed development. Ongoing development shall comply with the terms and conditions of this General Permit within 90 days of its effective date, and new development shall comply with the terms and conditions of this General Permit upon beginning eligible development activities.

Work performed by or for the Permittee that does not fully conform to the limitations set forth in this General Permit is subject to partial or total removal and enforcement actions pursuant to KRS 151.280 as directed by the Kentucky Department for Environmental Protection and KRS 151.125 under the authority and powers of the Secretary.

The Permittee shall contact the Division of Water, Water Resources Branch, at (502) 564-3410 or at [401WQC@ky.gov](mailto:401WQC@ky.gov) to determine if a Water Quality Certification is required. If required, the Permittee shall obtain a Water Quality Certification from the Division before beginning development.

The Permittee shall contact the Division of Water, Surface Water Permit Branch at (502) 564-3410 or at [SWPBsupport@ky.gov](mailto:SWPBsupport@ky.gov) to determine if a Stormwater Construction Permit is required. If required, the Permittee shall obtain a Stormwater Construction Permit from the Division before beginning development.

The Permittee is liable for any damage resulting from the development, operation, or maintenance of the activities covered by this permit.

**SECTION 2**  
**EXCLUSIONS AND ELIGIBILITY**

- 11) Repairs or maintenance to an existing shallow and narrow, man-made drainage-way, such as a swale or a ditch between two buildings. The man-made drainage-way cannot be mapped as having its own base floodplain. (A portion of the man-made drainage-way may empty into a larger waterbody that has a mapped base floodplain. For example, a ditch between two buildings that flows into an adjacent stream);
- 12) Development and placement of a fence that does not impede flow during a base flood event, as long as the fence is not constructed across a stream or wetland;
- 13) Locating a recreational vehicle that is fully licensed and ready for highway use in the floodplain for the base flood event for less than 180 consecutive days;
- 14) Removal of gravel or vein minerals from a stream by the Permittee for personal, noncommercial use that is completed as outlined in the Watershed Friendly Stream Maintenance guidance. Excavated materials shall not be placed along the banks of the stream or within the base floodplain. Eligibility for coverage under this General Permit shall be limited to fifty (50) tons or less excavated in twelve (12) successive calendar months in accordance with KRS 350.245. Eligibility for coverage under this General Permit shall not include removal of gravel or vein minerals that will be sold or transported on public roadways; or
- 15) Development in a watershed less than one square mile (1 mi<sup>2</sup>).



**SECTION 3**  
**REQUIREMENTS**

**3. PERMIT REQUIREMENTS**

- 1) The Permittee shall maintain access to a copy of this General Permit at the development site.
- 2) Prior to beginning development, the Permittee shall obtain a local floodplain development permit if the county/city/community is an eligible or participating community in the National Flood Insurance Program. Upon completion of the development, the Permittee shall obtain final written approval from the local permitting agency confirming compliance with the requirements of the local floodplain ordinance.
- 3) All excess debris and material from development activities shall be removed from the base floodplain. Upon completion of development, the site shall not exceed original grade elevation.
- 4) The Permittee shall at all times minimize the size of the disturbance and the period of time that the disturbed area is exposed without stabilization practices. The following practices shall be adhered to:
  - a. Erosion prevention measures, sediment and silt control measures, and other site management practices shall be designed, installed, and maintained in an effective operating condition to prevent off site migration of sediment.
  - b. Erosion prevention measures include, but are not limited to, erosion control mats/blankets, and mulch/straw, and shall be implemented on disturbed areas within 24 hours or as soon as practical after completion of disturbance or following cessation of activities.
  - c. Standard silt control practices shall be used in such quantity to prevent siltation of waters of the Commonwealth. Practices that are acceptable include silt fences, rock check dams, and straw-bales.
  - d. Permanent vegetation shall be placed on the disturbance area within 14 days or as soon as possible upon completion of development.
- 5) The entry of mobile equipment into a stream channel shall be prohibited.
- 6) Measures shall be taken to prevent possible spills of fuels and lubricants from entering waters of the Commonwealth. Any spill or discharge to waters of the Commonwealth shall be reported to the Department for Environmental Protection immediately by calling the Cabinet's Environmental Emergency Response Line at 1-(800)-928-2380.
- 7) Violations of the requirements of this General Permit are subject to enforcement action under KRS 151.182 and penalties under KRS 151.990.

This verification is valid until March 18, 2022. The enclosed Compliance Certification 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. Note that we also perform periodic inspections to ensure compliance with our permit conditions and applicable Federal laws. A copy of this letter will be forwarded to your agent and to the KDOW.

If you have any questions, please contact us by writing to the District Regulatory Office at the above address, ATTN: CELRL-RDS, or contact me directly at 502-315-2643 or [jason.w.rhoades@usace.army.mil](mailto:jason.w.rhoades@usace.army.mil). Any correspondence on this matter should refer to our ID Number LRL-2020-154-jwr.

Sincerely,



Jason Rhoades  
Regulatory Biologist, South Branch  
Regulatory Division

COPIES FURNISHED:

Ms. Beth Harrod  
Kentucky Energy & Environment Cabinet  
Division of Water  
300 Sower Boulevard  
Frankfort, Kentucky 40601

Mr. Michael Jacobs  
GRW Engineers, Inc.  
801 Corporate Drive  
Lexington, Kentucky 40503



ANDY BESHEAR  
GOVERNOR

REBECCA W. GOODMAN  
SECRETARY

**ENERGY AND ENVIRONMENT CABINET**  
**DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

ANTHONY R. HATTON  
COMMISSIONER

300 SOWER BOULEVARD  
FRANKFORT, KENTUCKY 40601

February 25, 2020

Robert Peterson, P.E.  
125 Lisle Industrial Ave  
Lexington, KY 40511

Re: Wolf Run Trunk D and Wolf Run Trunk E  
Fayette County, Kentucky  
Lexington Town Branch WWTP  
Activity ID #: 1073, APE20200003  
Receiving Treatment Plant KPDES #: KY0021491

Dear Mr. Peterson:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 305 LF 36-inch, 2510 LF 30-inch, 2800 LF 27-inch, 1550 LF 24-inch, 100 LF 18-inch, 205 LF 16-inch, 90 LF 10-inch, and 65 LF 8-inch PVC sanitary gravity sewer line. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit.

If we can be of any further assistance or should you wish to discuss this correspondence, please do not hesitate to contact David Coe at (502)782-6296.

Sincerely,

---

Terry Humphries, P.E.  
Supervisor, Engineering Section  
Water Infrastructure Branch  
Division of Water

TH / DC  
Enclosures

c: Fayette County Health Department  
GRW Engineers Inc  
Division of Plumbing



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Opportunity Employer M/F/D



**ADDENDUM No. 1**

Bid Number: **#132-2020**

Date: January 18, 2021

Subject: Wolf Run Trunk Sewers D & E  
Wastewater System Improvements  
Remedial Measures Plan ID No. WR-04, WR-05

Address inquiries to:  
Q&A Module on Ion Wave

Brian Marcum  
[brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)  
(859) 258-3325

**TO ALL PROSPECTIVE SUBMITTERS:**

Please be advised of the following clarifications to the above referenced Bid:

**1. DRAWINGS**

A. Drawing C-13

- Revise the invert elevation of the 24" stub out on MH E-24 from 714.10 to 914.10, in the profile. Elevation is shown in two locations.

**2. SPECIFICATIONS**

A. Specification Section 00100 – Advertisement for Bids

- Revise Section 00100, Part 1.12, Page 00100-3, to read:
  - A mandatory pre-Bid meeting will be held at **9:00 am local time, January 20, 2021** via teleconference. A direct link to the Microsoft Teams Meeting is as follows:  
[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_NGEyODAzMWEtNjgwNi00MWQxLTg0MDctMmNIMDFiYjQzMTg3%40thread.v2/0?context=%7b%22id%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%223f98bafd-29d4-4ba0-9821-024d98a2833c%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_NGEyODAzMWEtNjgwNi00MWQxLTg0MDctMmNIMDFiYjQzMTg3%40thread.v2/0?context=%7b%22id%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22oid%22%3a%223f98bafd-29d4-4ba0-9821-024d98a2833c%22%7d)



MAYOR LINDA GORTON



**LEXINGTON**

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

A handwritten signature in black ink that reads "Todd Slatin".

Todd Slatin, Director  
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.  
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

SIGNATURE OF BIDDER: \_\_\_\_\_

Attachments:

Drawings	
Specifications	





**ADDENDUM No. 2**

Bid Number: **#132-2020**

Date: January 19, 2021

Subject: Wolf Run Trunk Sewers D & E  
Remedial Measures Plan ID No. WR-04, WR-05

Address inquiries to:  
Q&A Module on Ion Wave

Brian Marcum  
[brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)  
(859) 258-3325

**TO ALL PROSPECTIVE SUBMITTERS:**

Please be advised of the following clarifications to the above referenced Bid:

The Microsoft Teams Meeting link has been revised. A new meeting link and a call in number are provided below, as shown in the specification revision.

A. Specification Section 00100 – Advertisement for Bids

- Revise Section 00100, Part 1.12, Page 00100-3, to read:

A mandatory pre-Bid meeting will be held at **9:00 am local time, January 20, 2021** via teleconference. A direct link to the Microsoft Teams Meeting is as follows:

Microsoft Teams meeting

Join on your computer or mobile app

[https://teams.microsoft.com/l/meetup-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBj%40thread.v2/0?context=%7b%22Tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22Oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

[join/19%3ameeting\\_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBj%40thread.v2/0?context=%7b%22Tid%22%3a%22083fc4d2-72ad-412b-ae7d-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBj%40thread.v2/0?context=%7b%22Tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22Oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

[6b81b83916dd%22%2c%22Oid%22%3a%22148017a5-c42e-4f7e-864e-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBj%40thread.v2/0?context=%7b%22Tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22Oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

[3de5bb20c0bc%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBj%40thread.v2/0?context=%7b%22Tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22Oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

[Or <https://tinylink.net/1gUsg>](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWZkNzEzZjktMDZhMC00YTM3LTg4NTgtN2I0Y2NiOTQ1NjBj%40thread.v2/0?context=%7b%22Tid%22%3a%22083fc4d2-72ad-412b-ae7d-6b81b83916dd%22%2c%22Oid%22%3a%22148017a5-c42e-4f7e-864e-3de5bb20c0bc%22%7d)

Or scan QR Code Below



Or call in (audio only) +1 502-208-2565, ID No.: 348 543 571# United States, Louisville



MAYOR LINDA GORTON



# LEXINGTON

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

A handwritten signature in black ink that reads "Todd Slatin".

Todd Slatin, Director  
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.  
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

SIGNATURE OF BIDDER: \_\_\_\_\_

**Attachments:**

Drawings	
Specifications	





MAYOR LINDA GORTON



**LEXINGTON**

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

**ADDENDUM No. 3**

Bid Number: **#132-2020**

Date: January 26, 2021

Subject: Wolf Run Trunk Sewers D & E  
Wastewater System Improvements  
Remedial Measures Plan ID No. WR-04, WR-05

Address inquiries to:  
Q&A Module on Ion Wave

Brian Marcum  
[brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)  
(859) 258-3325

**TO ALL PROSPECTIVE SUBMITTERS:**

Please be advised of the following clarifications to the above referenced Bid:

1. **CLARIFICATIONS**
  - A. Please see attached Pre-Bid Meeting Minutes
2. **DRAWINGS**
  - A. None at this time.
3. **SPECIFICATIONS**
  - A. None at this time.

Todd Slatin, Director  
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.  
This letter should be signed, attached to and become a part of your Bid.



MAYOR LINDA GORTON



**LEXINGTON**

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

SIGNATURE OF BIDDER: \_\_\_\_\_

**Attachments:**

- Pre-Bid Meeting Minutes
- Attendee Log (Sign-in Sheet)
- PIE Procedures for DWQ Projects
- DWQ Policy for Storing Materials in the Floodway



**Wolf Run DE  
LFUCG, Lexington, KY**

**GRW Project No. 4790  
Date: January 20, 2020**

---

### Meeting Attendees

- Please see attachment.

### 1. Introduction

- Owner: LFUCG DWQ
  - Bob Peterson, PE, RMP Manager
  - Tyler Bridges, PE, Project Manager
  - Fletcher Gabbard, Construction Supervisor
  - Brian Marcum, Buyer Senior
  - Sherita Miller, MBE Liaison
  - Diann Williams, Administrative Aid
- Engineer: GRW Engineers, Inc.
  - Mike Jacobs, PE, Project Manager (Unable to attend)
  - Chase Campbell, Project Engineer
- Please type your name and the company you are representing in the chat box. This will create a list of the meeting attendees. Please mute your microphones.

### 2. Project Description

The project includes providing all construction supervision, labor, materials, tools, test equipment necessary for the Wolf Run Trunk Sewers D & E project. The proposed Wolf Run trunk D will include the replacement and installation of approximately 305 linear feet of 36-inch diameter sewer, 2,400 linear feet of 30-inch diameter sewer, 120 linear feet of 12-inch diameter sewer, and appurtenant structures. The proposed Wolf Run Trunk E will include the replacement and installation of approximately 3,250 linear feet of 27-inch gravity sewer, 1150 linear feet of 24-inch gravity sewer, 130 linear feet of 18-inch gravity sewer, 200 linear feet of 10-inch gravity sewer, 50 linear feet of 8-inch gravity sewer, and appurtenant structures.

The foregoing descriptions shall not be construed as a complete description of all work required.

### 3. Bid/Construction Schedule

- January 20, 2021: Mandatory Virtual Pre-bid Meeting (9:30 pm)
- January 25, 2021: Cut-Off Date for Questions (5:00 pm)
- January 28, 2021: Final Addendum Issued
- February 4, 2021: Virtual Bid Opening (2:00pm)
- March, 2021: Award Contract
- March, 2021: Notice to Proceed
- TBD: Preconstruction Conference
- March, 2022: Construction Complete

**Wolf Run DE**  
**LFUCG, Lexington, KY**

**GRW Project No. 4790**  
**Date: January 20, 2020**

---

#### **4. Bidding Questions and Procedures**

- Due to the current environment and recommendations for social distancing, LFUCG will only be accepting bids on-line through Ion Wave for this solicitation. Base bid and alternate totals (if required) should be provided on the appropriate line items tab on Ion Wave. Submissions without line item totals (if required) may be rejected and deemed non-responsive. **Please submit all questions via the Q&A Module on ION WAVE.**
- Pre-bid meeting Questions:
  - Questions may be asked verbally. Questions will be recorded and issued as part of an addendum.
  - Verbally asked questions may be verbally responded to by the Owner/Engineer at the meeting, and responses recorded in the addendum.
  - Responses from Owner/Engineer at pre-bid meeting may change after we have had a chance to get back to the office and research/clarify information.
- Final written responses in addendums will override any verbal question responses.
- Final issued addendums will be the legal response of record.

#### **5. MWDBE Goals**

- The successful Bidder must submit with their bid (see section 00410 – Bid Form) the following items:
  - Affirmative Action Plan of the firm
  - Current Work Force Analysis Form
  - Good Faith Effort Documentation to meet the MWDBE goals.
  - List of Disadvantaged Business Enterprise Subcontractors and the Dollar Value of each Subcontract
- It is requested that each Bidder include in its bid a goal of (10%) for MWDBE participation and a goal of (3%) for Veteran participation.
- Contact Sherita Miller, [smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov) Division of Central Purchasing for additional information.

#### **6. Erosion Control and Storing Materials in Floodway**

- Review streambank restoration details.
- Richard Walker, PE, provided LFUCG policy procedures (see attachments).

#### **7. Wage Rates**

- State and Federal Wage rates **are not** included as part of this project.

#### **8. Bid Form**

- The bid form contains both lump sum work and unit price work.
  - The lump sum work includes everything in the plans and specifications not listed in the unit price work.
  - Allowances are included for miscellaneous site improvements.

#### **9. Completed Permits Prior to Construction**

- KY DOW Construction Permit – obtained by Owner
- US Army Corps of Engineers Permit – obtained by Owner
- KY DOW Stream Crossing Permit/Floodplain Encroachment Permit – obtained by Owner

**Wolf Run DE  
LFUCG, Lexington, KY**

**GRW Project No. 4790  
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### **10. Permits to be completed**

- Storm Water Pollution Prevention Plan (SWPPP)
  - Included in specification section 02371. Partially completed. Contractor to complete.
  - Approved LFUCG Land Disturbance Permit Application & Erosion and Sediment Control (ESC) checklist is included in SWPPP specification
- KPDES Notice of Intent (NOI)
- Fuel Storage Permit (if required) for any generators, pumps, and equipment.

### **11. Site Access**

- Contractor to access the work site via public roads, access easements and temporary and permanent easements as indicated on the project drawings.
- Any other access easement agreements between the Contractor and property owners are to be approved by LFUCG DWQ and the Engineer prior to any use.

### **12. General Construction**

- No Blasting is allowed. See specification section 02225.
- Site security and temporary chain link construction fencing is required.
- Staging area shall be identified by the Contractor.
- The entire site shall be maintained by the contractor (mowing, cleanup, site access, etc.)
- Spoils site for excess excavated material shall be identified by the Contractor.
- Concrete washout structures shall be located and installed by the Contractor.
- Bypass pumping and maintaining service at all times is the responsibility of the Contractor.
- All MOU Conditions are incidental, except those specifically identified on the plans as not incidental.

### **13. Submittals**

Required submittals include but are not limited to:

- Schedule of Values
- Construction Sequencing Plan
- Construction Access Plan
- Abandoned Pipe Safeload Plan
- Creek Crossing Construction Plan
- Staging Area Plan
- Spoils Management Plan
- Dewatering Plan
- Construction Access-way Maintenance Plan
- Traffic Control Plan
- Concrete Washout Structures
- Maintenance of Operations Plan
- Bypass pumping plan
- Contractor/Sub-contractor Safety Plan(s)

The named submittals are incidental to the contract and are not pay items

**Wolf Run DE**  
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#### **14. Questions and Comments**

- Will friends of Wolf Run be involved in the project? *They are not actively involved in the project but are an outside group whose opinion will be considered. They are very active and pay careful attention to erosion and sediment control. The contractor should expect they will be observing construction and report anything they feel is out of line.*



# Pre-Bid Sign-In Sheet

**Wolf Run DE  
LFUCG, Lexington, KY**

**GRW Project No. 4790  
Date: January 20, 2020**

## Microsoft Teams Guest List:

The screenshot shows a list of participants in a Microsoft Teams meeting. The list is organized into three columns. Each entry includes a profile picture, name, and status (e.g., 'Outside your organization').

- Column 1:** Tyler Bridges, Brian Marcum (Outside your organization), Cain Maynard (Outside your organization), Chase Campbell (Outside your organization), Chad Bezold (Guest), Chase Hart (Outside your organization), Danny Wolfe, MAC Constructi..., Free Contracting (Guest), Green, Mike (Outside your organization).
- Column 2:** Cassandra R. Hamilton (Outside your organization), Jarrod Conn w lagco, Abby Monhollen (Outside your organization), Robert Peterson (Outside your organization), Ryan Potter (Outside your organization), Jon Schubarth, Sherita Miller (Outside your organization), Taylor Chandler (Outside your organization), Terry Bailey (Guest).
- Column 3:** Richard Walker (Outside your organization), Kurt Zehnder (Organizer), +1 812-941-7895, +1 502-839-6072, +1 765-309-5807, +1 740-451-1010, +1 859-621-1055.

## Microsoft Teams Chat Log:

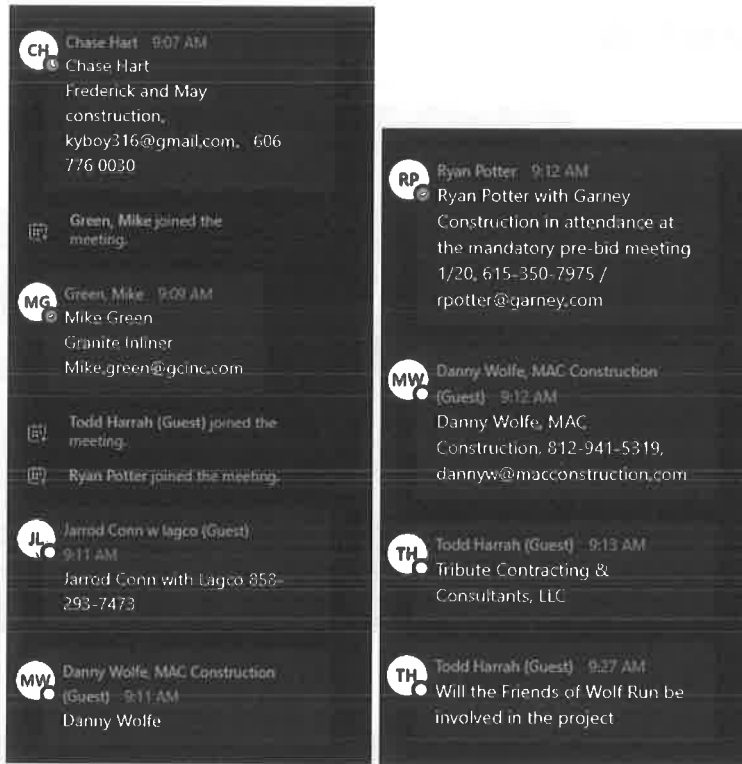
The screenshot shows a chat log with messages from various participants. The messages are timestamped and include contact information and company names.

- 9:02 AM:** Cain Maynard: Cain Maynard Sunbelt Pump Solutions 615-83-2854 cain.maynard@sunbeltrentals.com
- 9:04 AM:** Chase Hart: Chase Hart  
Frederick and May Construction
- 9:04 AM:** Chad Bezold (Guest): Chad Bezold Ohio CAT - Turnkey Bypassing Pumping 513-814-7851
- 9:05 AM:** Sherita Miller: Sherita Miller, MBE Liaison, LFUCG, smiller@lexingtonky.gov
- 9:05 AM:** Kurt Zehnder: Kurt Zehnder, Hazen and Sawyer
- 9:05 AM:** Tyler Bridges: Tyler Bridges, Hazen and Sawyer
- 9:05 AM:** Abby Monhollen: Abby Monhollen, Tetra Tech, abby.monhollen@tetratech.com 8595148819
- 9:05 AM:** Taylor Chandler: Taylor Chandler Cleary Constuction Estimating@clearyconst.com 270-487-1784
- 9:05 AM:** Terry Bailey (Guest): Terry Bailey, Connhurst, LLC, connhurst@hotmail.com/tbailey.connhurst@windstream.net 606-336-4224
- 9:06 AM:** Codee Guffey: Codee Guffey, Smith Contractors Inc., cg@sc82.com. (502) 839-4196
- 9:05 AM:** Kurt Zehnder: Please type your name, company you are representing, phone number in the chat
- 9:05 AM:** Codee Guffey: Codee Guffey joined the meeting.

# Pre-Bid Sign-In Sheet

**Wolf Run DE**  
**LFUCG, Lexington, KY**

**GRW Project No. 4790**  
**Date: January 20, 2020**



**Microsoft Teams Formal List:**

	NAME	COMPANY	PHONE NUMBER
1	Bob Peterson	LFUCG	859-425-2438
2	Fletcher Gabbard	LFUCG	859-425-2438
3	Brian Marcum	LFUCG	859-425-2438
4	Sherita Miller	LFUCG	859-425-2438
5	Kurt Zehnder	Hazen & Sawyer	859-219-1126
6	Tyler Bridges	Hazen & Sawyer	859-219-1126
7	Jon Schubarth	Hazen & Sawyer	859-219-1126
8	Chase Campbell	GRW Engineers	859-223-3999
9	Richard Walker	Tetra Tech	
10	Abby Monhollen	Tetra Tech	859-514-8819
11	Cain Maynard	Sunbelt Pump Solutions	615-83-2854
12	Chase Hart	Frederick and May Construction	606-776-0030
13	Chad Bezold	Turnkey Bypassing Pumping	513-814-7851
14	Terry Baily	Connhurst, LLC	606-336-4224
15	Taylor Chandler	Cleary Construction	270-487-1784
16	Codee Guffey	Smith Contactors Inc.	502-839-4196
17	Mike Green	Granite Inliner	
18	Jarroed Conn	Lagco	858-293-7473
19	Ryan Potter	Garney Construction	615-350-7975
20	Danny Wolfe	MAC Construction	812-941-5319



## Pre-Bid Sign-In Sheet

**Wolf Run DE  
LFUCG, Lexington, KY**

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21	Todd Harrah	Tribute Contracting & Consultants, LLC	
22	John Fuchs	Brackney Inc.	
23		Free Contracting	
24	Cassandra Hamilton		

### Email List:

- Bob Peterson: [rpeterson@lexingtonky.gov](mailto:rpeterson@lexingtonky.gov)
- Fletcher Gabbard: [fgabbard@lexingtonky.gov](mailto:fgabbard@lexingtonky.gov)
- Brian Marcum: [bmarcum@lexingtonky.gov](mailto:bmarcum@lexingtonky.gov)
- Sherita Miller: [smiller@lexingtonky.gov](mailto:smiller@lexingtonky.gov)
- Kurt Zehnder: [kzehnder@hazenandsawyer.com](mailto:kzehnder@hazenandsawyer.com)
- Tyler Bridges: [tbridges@hazenandsawyer.com](mailto:tbridges@hazenandsawyer.com)
- Jon Schubarth: [jschubarth@hazenandsawyer.com](mailto:jschubarth@hazenandsawyer.com)
- Chase Campbell: [ccampbell@grwinc.com](mailto:ccampbell@grwinc.com)
- Mike Jacobs: [mjacobs@grwinc.com](mailto:mjacobs@grwinc.com)
- Richard Walker:
- Abby Monhollen: [abby.monhollen@tetrattech.com](mailto:abby.monhollen@tetrattech.com)
- Cain Maynard: [cain.maynard@sunbeltrentals.com](mailto:cain.maynard@sunbeltrentals.com)
- Chase Hart: [kyboy316@gmail.com](mailto:kyboy316@gmail.com)
- Chad Bezold:
- Terry Bailey: [connhurst@hotmail.com](mailto:connhurst@hotmail.com) / [tbailey.connhurst@windstream.net](mailto:tbailey.connhurst@windstream.net)
- Taylor Chandler: [Estimating@clearconst.com](mailto:Estimating@clearconst.com)
- Codee Guffey: [cg@sci82.com](mailto:cg@sci82.com)
- Mike Green: [Mike.green@gcinc.com](mailto:Mike.green@gcinc.com)
- Jarrod Conn:
- Ryan Potter: [rpotter@garney.com](mailto:rpotter@garney.com)
- Danny Wolfe: [dannyw@macconstruction.com](mailto:dannyw@macconstruction.com)
- Todd Harrah:
- John Fuchs: [jfuchs@brackneyinc.com](mailto:jfuchs@brackneyinc.com)
- Free Contracting:
- Cassandra Hamilton:

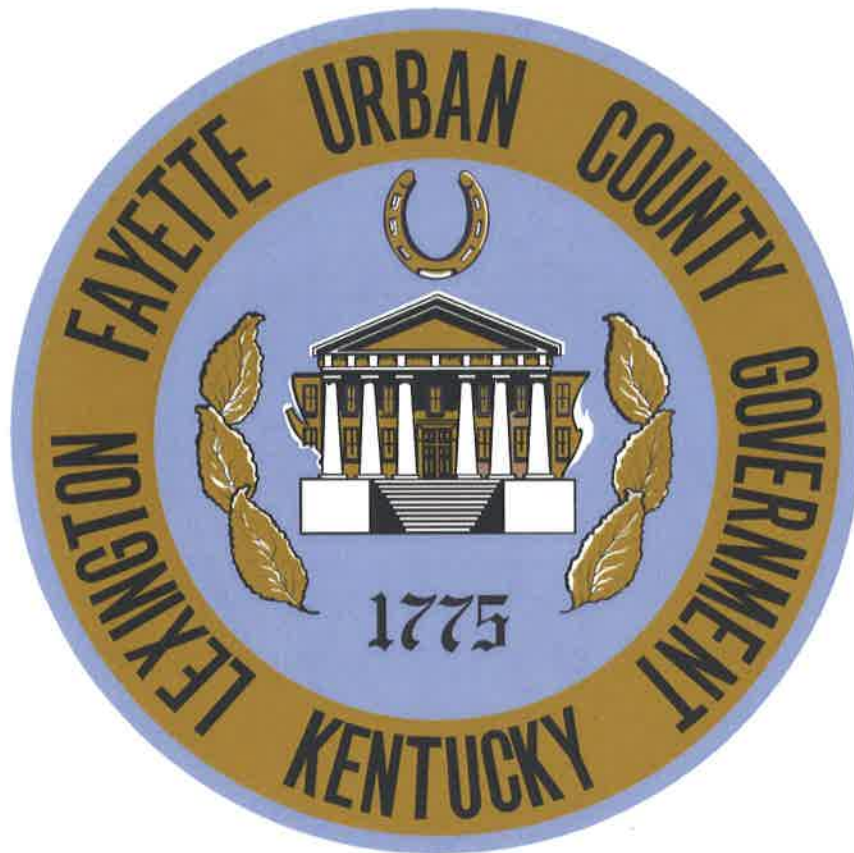
### Notes

- 812-941-7895 unknown caller. Called after the meeting and the caller was Mac Construction.

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Permitting, Inspection, and Enforcement Procedures  
for Erosion and Sediment Control on  
Division of Water Quality Capital Construction Projects

*Lexington-Fayette  
Urban County Government*



November 2020

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**Permitting, Inspection, and Enforcement Procedures  
for Erosion and Sediment Control on Division of Water Quality  
Capital Construction Projects**

***Date of Original Publication:***

October 2013

***Date of Current Publication:***

November 2020



*This publication was developed by the Tetra Tech / Third Rock Consultants Stormwater Program Management Team under contract to LFUCG for purposes of implementing the stormwater provisions of its Clean Water Act Consent Decree and/or its Kentucky Division of Water (KDOW) Municipal Separate Storm Sewer System (MS4) Permit.*

## Permitting, Inspection, and Enforcement Procedures for Erosion, Sediment, and Stormwater Control on Division of Water Quality Capital Construction Projects

### DWQ Remedial Measures Plan Projects

**DWQ RMP Program Manager:** Bob Peterson

**DWQ Program Management Consultant:** Hazen and Sawyer

**Construction Contract Administrators (CA):** DWQ Consultants

**Resident Project Representative (RPR):** DWQ Consultants

**ESC Plan Reviewer:** DWQ Stormwater Section – Amad Al-Humadi

**Land Disturbance Permit (LDP) Issuer:** DOE New Development

**Erosion and Sediment Control Compliance Inspector:** RPR

**Accela Data Entry:** DWQ Compliance & Monitoring (C&M) – Kevin Lyne

**Land Disturbance Permit (LDP) Permittee:** Contractor

### DWQ Wastewater Treatment Plant Capital Projects

**DWQ Plant Engineer:** Tiffany Rank

**DWQ Project Manager:** Varies

**Construction Contract Administrators (CA):** Rick Day, Rick Bowman

**Resident Project Representatives (RPR):** Varies

**ESC Plan Reviewer:** DWQ Stormwater Section – Amad Al-Humadi

**Land Disturbance Permit (LDP) Issuer:** DOE New Development

**Erosion and Sediment Control Compliance Inspector:** RPR

**Accela Data Entry:** DWQ Construction Management – Jody Scrivner

**Land Disturbance Permit (LDP) Permittee:** Contractor

### DWQ Stormwater, Water Quality, and Capacity Assurance Capital Projects:

**DWQ Section Managers:** Greg Lubeck, Jennifer Carey, or Craig Prater

**DWQ Project Manager:** Varies

**Construction Contract Administrator (CA):** Rick Day

**Resident Project Representatives (RPR):** Rick Day or Bill Warren

**ESC Plan Reviewer:** DWQ Stormwater Section – Amad Al-Humadi

**Land Disturbance Permit (LDP) Issuer:** DOE New Development

**Erosion and Sediment Control Compliance Inspector:** RPR

**Accela Data Entry:** DWQ Construction Management – Jody Scrivner

**Land Disturbance Permit (LDP) Permittee:** Contractor

## Permitting Procedures

1. Contractor shall develop a Stormwater Pollution Prevention Plan / Erosion and Sediment Control Plan (SWPPP/ESC Plan). A SWPPP/ESC Plan template is on the LFUCG website at <https://www.lexingtonky.gov/new-development>. On some projects, the construction contract documents may contain a SWPPP/ESC Plan prepared by LFUCG's consultant for purposes of establishing bid quantities. If the Contractor chooses to use this SWPPP/ESC Plan to obtain the required permits, the Contractor takes sole responsibility for the content of the SWPPP/ESC Plan and the implementation of the plan during construction.
2. Contractor must submit an application for a Land Disturbance Permit to the LFUCG Division of Engineering before beginning project construction. The permit application is available at <https://aca3.accela.com/lexky/>.
3. For projects with a disturbed area of  $\geq 1$  acre, the contractor must submit a Notice of Intent (NOI) to the KY Division of Water (KDOW) and obtain KYR10 Permit coverage before beginning construction of any kind on the site. The NOI can be submitted electronically at <http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf>.
4. Contractor cannot start project work until they have obtained the LFUCG Land Disturbance Permit and KYR10 Permit coverage (if applicable – see above).
5. Amad Al-Humadi will review the SWPPP/ESC Plan, confirm that the Contractor has obtained KYR10 Permit coverage (if applicable – see above), and authorize the Contractor to install the initial BMPs.
6. Contractor then installs the initial BMPs, prior to project work (general excavation, grading, etc.).
7. Amad Al-Humadi inspects the installation of the initial BMPs and authorizes DOE New Development to issue the Land Disturbance Permit. Contractor then begins the project.

## Contractor Responsibilities

### Contractor shall:

1. Develop a SWPPP/ESC Plan, or review and agree to use the SWPPP/ESC Plan prepared by LFUCG's consultant, or amend it as needed.
2. Attend a pre-construction conference with LFUCG.
3. Post the LFUCG Land Disturbance Permit and KYR10 Permit (if applicable) on the project sign at the site, and keep a copy of the SWPPP/ESC Plan on site and available for review.
4. Follow the SWPPP/ESC Plan; revise and redline it as conditions change on the site.
5. Install and maintain BMPs to prevent sediment from washing into streets, storm sewers, and streams. All runoff from disturbed areas must pass through a BMP before leaving the site.
6. Maintain a 50-foot vegetative buffer strip along perennial and intermittent streams (including impounded streams), wetlands, sinkholes, and inlets.
7. If work must be done within 50 feet of a perennial or intermittent stream, wetland, sinkhole, or inlet, complete work as soon as possible and stabilize the area within 24 hours after completing work.
8. Conduct an ESC inspection at least once every 7 calendar days and within 24 hours after each rainfall of 0.5 inches or greater (or 4 inches of snow or greater).
9. Complete and sign the inspection form after each inspection. Keep the completed inspection forms on site and available for review.
10. Stabilize inactive portions of the site with straw, blanket, seed, or other cover within 14 days of no activity, and provide permanent stabilization within 14 days of reaching final grade.
11. If the project has a KYR10 Permit, file a Notice of Termination with the KY Division of Water and forward to the LFUCG Division of Engineering and LFUCG Division of Water Quality when construction has been completed and the site is stabilized. Final stabilization is defined as follows from KYR10: "All soil disturbing activities at the site have been completed and either of the two following criteria are met – a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed."
12. Respond promptly to Verbal Warnings and Notices of Violation from LFUCG regarding correcting ESC problems.

## Inspection Procedures for the Resident Project Representative

### Weekly Field Inspections

1. Ensure the LFUCG Land Disturbance Permit and KYR10 Permit are posted at the site
2. Ensure SWPPP/ESC Plan is available for review
3. Ensure that the weekly and rain event completed inspection forms are available for review
4. Walk the perimeter of the entire site
5. Note downgradient controls:
  - Inspect ditches and sheet flow areas
  - Silt fences working?
  - Ditches vegetated / stabilized?
  - Significant sediment discharges?
6. Walk around internal disturbed areas
  - Idle for more than 14 days . . . stabilized?
7. Inspect all inlets and ditches
  - Inlets protected, ditches stabilized?
8. Check out material / fuel storage areas
  - Spills? Leaks? Leaching pollutants? Litter / waste managed?
9. Inspect concrete washout(s)
10. Inspect the construction entrance / exit
11. Inspect the 50-foot vegetative buffer strip adjacent to waterways. The buffer strip must be stabilized within 24 hours of any approved construction activity in the buffer strip.
12. Communicate inspection findings to Contractor, note issues that need attention
13. Complete the LFUCG inspection checklist
14. Submit an electronic copy of the completed checklist to the Project Manager and the Accela Data Entry Contact person on page 1.
15. Inspect the site the next working day after a storm event of 0.5 inches or greater. Complete the inspection checklist and submit a copy to the Project Manager

### Important Items for the Permittee / Contractor / RPR to Verify:

- Posted permits, plans, and inspection reports
- Graded / inactive areas stabilized with seed, mulch, blankets, mats, etc.
- Stabilized, non-eroding ditches
- Maintained silt fences and protected curb / drop inlets
- No mud on the street
- Trash and litter managed
- No disturbance in the 50-foot buffer zone adjacent to streams, wetlands, sinkholes, and inlets, unless approved; areas within the 50-foot buffer must be stabilized within 24 hours

## Enforcement Procedures

1. The Contractor will be paid for erosion and sediment control based upon a schedule of values established within the Measurement and Payment section of the specifications (e.g., 25% paid once initial ESCs have been installed and LDP obtained, 50% paid in equal monthly payments for maintenance over the construction period, 25% paid for removal of ESCs and final stabilization). The intent of this provision is to pay the Contractor for ESC maintenance for each month that the BMPs are maintained and functioning properly.
2. The RPR shall follow the attached **Compliance Assistance Guidance for DWQ Capital Project RPRs** and implement the **Escalating Enforcement Process** described below.

**Table 1 – ESC Escalating Enforcement Process**

DWQ Capital Project	Escalating Enforcement Process
Remedial Measures Program	The RPR shall escalate the issue to the RMP Program Manager and RMP Program Management Consultant's Project Manager
Wastewater Treatment Plants Stormwater Section MS4/Water Quality Section Sanitary Sewers Capacity Assurance Program	The RPR shall escalate the issue to the DWQ Section Manager and the DWQ Construction Contract Administrator

3. DWQ will use all available means in the contract to obtain compliance, including:
  - a. withholding payment
  - b. notifying the Contractor that LFUCG intends to initiate the process for declaring that the Contractor is in default of the contract and specifying a deadline for addressing the ESC deficiencies
  - c. initiating the process for calling the ESC Performance Bond
  - d. issuing Notices of Violation (NOVs)
  - e. stopping work



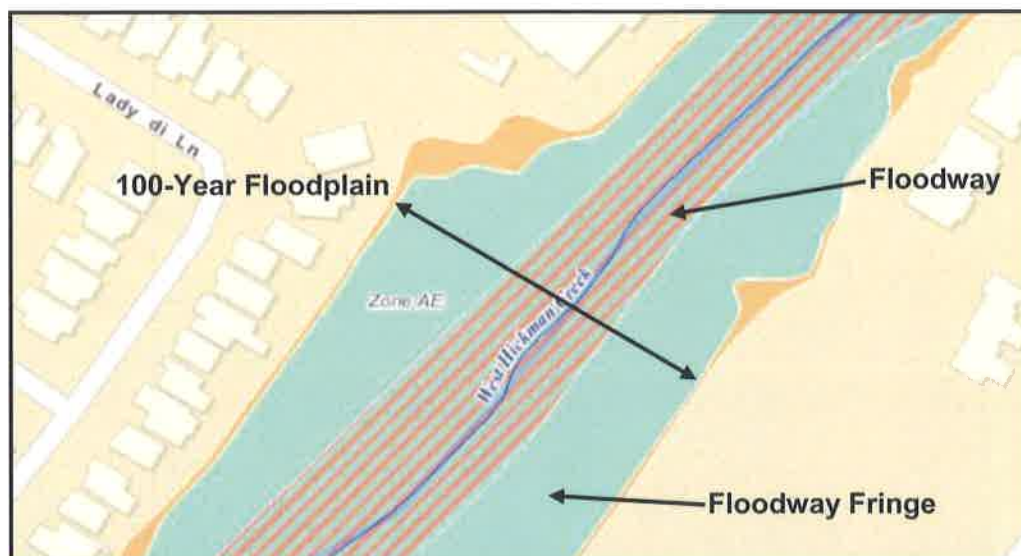
## Compliance Assistance Guidance for DWQ Capital Project RPRs

Observed Condition	Verbal Warning to Correct within 3-5 days (See Note 1)	Verbal Warning to Correct within 24 hours (See Note 1)	Escalate the Issue Immediately in Accordance with Table 1
	Construction Entrance to Public Road	Rock pad poorly installed/maintained Small amount of sediment on road	
Unstabilized Areas	Flat inactive disturbed areas not stabilized in 14 days	Rock pad completely covered with soil Significant amount of sediment on road Ditches not stabilized immediately after construction	Disturbed, inactive slopes above waterways, wetlands, floodplains, critical areas <sup>2</sup> not stabilized within 24 hours Discharge of concrete wash water, chemicals, other pollutants into inlets, streams, wetlands, etc.
	Inlet Protection	Rock pad not installed	
Silt Fencing	Sediment needs to be removed around inlet protection	Rock pad completely covered with soil Significant amount of sediment on road Ditches not stabilized immediately after construction	Disturbed, inactive slopes above waterways, wetlands, floodplains, critical areas <sup>2</sup> not stabilized within 24 hours Discharge of concrete wash water, chemicals, other pollutants into inlets, streams, wetlands, etc.
	Does not match SWPPP/ESC Plan but critical areas <sup>2</sup> and roads are protected	Rock pad not installed	
Soil Stockpiles	Does not comply with Stormwater Manual but is functional	Disturbed, inactive slopes not stabilized within 14 days	Large quantities of sediment in critical areas <sup>2</sup>
	Needs maintenance/repair, but is not near an inlet or surface water	Curb inlet protection not in place or improperly installed	
Permit Violations	No perimeter controls, downstream BMPs in place	Silt fence not installed per plan and critical areas <sup>2</sup> and roads are not protected	Unapproved construction activities in 50-foot buffer zone around sinkholes, streams, wetlands, etc. Construction has started, BMPs not installed
		Blowouts have occurred with discharge of sediment to critical areas <sup>2</sup>	
		Not trenched in, is not functional	
		Silt fence needs repairs in critical areas <sup>2</sup>	
		No perimeter controls, downstream BMPs not in place	

1. Escalate the issue in accordance with Table 1 after the 2nd Verbal Warning.
2. Critical areas are areas within 25 feet of a stream, wetland, sinkhole, or inlet.

## **Policy for Storing Construction Material in the Floodway/Floodplain Division of Water Quality Capital Projects October 1, 2019**

1. Excavated residual spoils from excavation may be stored in the floodway or floodway fringe under the following conditions:
  - a. Spoil material may be stored no longer than 30 days in the floodway. Any material in the floodway after 30 days shall be removed.
  - b. Spoil material may be stored in the floodway fringe (the area in the floodplain that is outside of the floodway) no longer than 180 days.
  - c. Spoil material stored in the floodway or floodway fringe shall be enclosed by reinforced silt fence (Coir logs are not acceptable). Diversion berms/ditches shall be constructed upslope of stockpiles to minimize run-on water.
  - d. Any evidence of erosion of the stored material shall be immediately mitigated.
2. Construction materials stored in the floodway shall be anchored to prevent floatation or displacement during a flood event.
3. Fuel tanks, lubricants, fertilizer, and chemical products or other potentially hazardous materials shall not be stored in the floodway or floodway fringe.
4. Prior to beginning construction, the contractor shall submit a Spoils Management Plan to LFUCG for review and acceptance. The plan shall be kept on site at all times.





**ADDENDUM No. 4**

Bid Number: **#132-2020**

Date: January 28, 2021

Subject: Wolf Run Trunk Sewers D & E  
Wastewater System Improvements  
Remedial Measures Plan ID No. WR-04, WR-05

Address inquiries to:  
Q&A Module on Ion Wave

Brian Marcum  
[brianm@lexingtonky.gov](mailto:brianm@lexingtonky.gov)  
(859) 258-3325

**TO ALL PROSPECTIVE SUBMITTERS:**

Please be advised of the following clarifications to the above referenced Bid:

	<b>Questions</b>	<b>Answers</b>
1.	Can you email myself the attendee list for the LFUCG - Wolf Run Trunk Sewers D & E - Pre-Bid Meeting?	The attendee list was sent out as part of Addendum #3.
2.	Sheet C-05: Will the contractor be reimbursed for gas line location?	No, the Contractor's costs to field verify the gas line location, within the first 30-days of the NTP, will be incidental to the project cost.
3.	Sheet C-06: Will the contractor be reimbursed for gas line location?	No, the Contractor's costs to field verify the gas line location, within the first 30-days of the NTP, will be incidental to the project cost.
4.	Can the bid date be extended for the project? There are several other projects out to bid around the 2/4/21 bid date. A one or two week extension would allow us more time to put a competitive number on this project.	No, due to EPA consent judgement deadlines the bid date will not be extended.
5.	Where do we install sanitary markers?	Sanitary markers are not required for gravity sewer projects.





6.	Please clarify there are no inside drop manholes on the project?	There will be one (1) internal drop manhole as part of this project. MH #E-24, on SHT C-13 has an 18" internal drop to allow room for the 24" sewer stub-out. The internal manhole drop connection detail can be found on SHT SD4.
7.	Is there an engineer's estimate?	LFUCG does not release the engineer's estimate prior to bid opening.
8.	For this amount of pipe in rock, can the schedule of 365 days be extended if needed?	No, due to the EPA consent judgement schedule the construction time will not be extended.
9.	Will settlement monitoring be on this project per spec 2222-8?	Specification Section 2222 applies to bore-pits. Settlement monitoring, as outlined in this specification, will not be necessary for this project. However, the Contractor is responsible for any construction settlement on the project.
10.	Unit 67 & 70 conflict with each other. Which one do we use for sod?	Line item #70 (Sod) in the Bid Schedule is redundant and will be removed. See updated Bid Schedule.
11.	Will 1037 Cross Key Rd dumpster pad & fence be by units or is this incidental to contract?	Dumpster pads and fences being disturbed as part of this project are incidental to the contract as listed in the MOU conditions. These items shall be replaced per LFUCG's current dumpster pad guidelines.
12.	Will chain link fence for personal properties be per unit prices 4 & 6' ft fence?	Chain link fencing associated with personal properties that are outlined in the MOU conditions will be incidental to the contract. Refer to the attached updated Bid Schedule for all fencing outside of personal properties.
13.	(The entry of mobile equipment into stream channel shall be prohibited) Can you clarify on what this means? No equipment at all in the creek?	The entry of mobile equipment into a stream channel shall be prohibited, based off the General Floodplain Permit. If the entirety of construction cannot be accomplished from the stream bank, the Contractor will have to obtain an individual permit.
14.	Will tree removal for specific addresses be part of clear & grub unit price or will this be incidental?	All tree removal is incidental to the contract either by line item #89 (Clearing and Grubbing) in the Bid Schedule or through the MOU conditions.
15.	What unit will the temporary stone parking lot area be in?	It is Incidental to the contract.





16.	Is full depth stone backfill required under all pavements?	Yes.
17.	Will creek crossing detail be provided?	Creek crossing specifics are located on the "Streambank Restoration" details which can be seen on SHT SD5
18.	Can sanitary sewer maps be provided in vicinity of new construction to facilitate bypass pumping planning?	Sanitary sewer maps will be provided to the successful bidder.
19.	Is it okay to close Appomattox road, Normandy road, Furlong drive, and Beacon Hill road as needed?	Access to all private driveways will remain open at all times. Any lane and/or road closures are the Contractor's responsibility to be coordinate with and submitted for approval to LFUCG's traffic engineering.
20.	Maximum flow expected thru the existing 21" RCP at 0.16% slope is approximately 3,000 GPM. Is it necessary to size pumps and piping for 8.3 MGD (5,764 GPM)?	Yes, the pump rate listed was established by LFUCG's Consent Decree modeling results for a 2-year 24-hour storm.
21.	Will blasting be allowed during this project?	There is no blasting allowed for the project. Specification Section 02225 is a standard specification.
22.	Will steam be allowed for the CIPP alternative?	Yes.

### 1. CLARIFICATIONS

- A. None at this time.

### 2. DRAWINGS

- A. Drawing C-02
- Revise profile note for MH # D-4 to read:  
INV. IN EL. = 899.79 (4" SEWER) (N) (EXTERNAL DROP)

### 3. SPECIFICATIONS

- A. Specification Section 00410 – Bid Form
- Replace Section 00410, in its entirety, with attached revised Bid Schedule



MAYOR LINDA GORTON



**LEXINGTON**

TODD SLATIN  
DIRECTOR  
CENTRAL PURCHASING

**B. Specification Section 01025 – Measurement and Payment**

- Delete paragraph 2.38 in its entirety and replace with the following:  
2.38 Not Used

Todd Slatin, Director  
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.  
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

SIGNATURE OF BIDDER: \_\_\_\_\_

Attachments:

Drawings	
Specifications	
00410 – Bid Form	
Plan Holders List	



## SECTION 01010 - SUMMARY OF WORK

### PART 1 - GENERAL

#### 1.01 THE REQUIREMENT

- A. The Work to be done under this Contract and in accordance with these Specifications consists of furnishing all equipment, supervision, labor, skill, material and all other items necessary for the construction of the **Wolf Run Trunks D & E project. The proposed Wolf Run trunk D will include the replacement and installation of approximately 305 linear feet of 36-inch diameter sewer, 2,400 linear feet of 30-inch diameter sewer, 120 linear feet of 12-inch diameter sewer, and appurtenant structures. The proposed Wolf Run Trunk E will include the replacement and installation of approximately 3,250 linear feet of 27-inch gravity sewer, 1150 linear feet of 24-inch gravity sewer, 130 linear feet of 18-inch gravity sewer, 200 linear feet of 10-inch gravity sewer, 50 linear feet of 8-inch gravity sewer, and appurtenant structures.**
- B. The Contractor shall perform all work required for such construction in accordance with the Contract Documents and subject to the terms and conditions of the Contract, complete and ready for use.
- B. The principal features of the Work to be performed under this Contract includes, but is not limited to:
1. Installation of gravity sanitary sewers and/or force mains, reinforced concrete manholes, and appurtenances.
  2. Connections to existing sanitary sewers and service laterals, as necessary.
  3. Maintenance of existing sanitary sewer flows during construction
- D. The foregoing description(s) shall not be construed as a complete description of all work required.

#### 1.02 CONTRACT DOCUMENTS

- A. Work to be done is shown on the set of Drawings entitled: **Wolf Run Trunk Sewers D & E.** The numbers and titles of all Drawings appear on the index sheet of the Drawings. All drawings so enumerated shall be considered an integral part of the Contract Documents as defined herein.

#### 1.03 GENERAL ARRANGEMENT

- A. Drawings indicate the extent and general arrangement of the work. If any departures from the Drawings are deemed necessary by the Contractor to accommodate the materials and equipment he proposes to furnish, details of such departures and reasons therefore shall be submitted as soon as practicable to the Engineer for approval. No such departures shall be made without the prior written approval of the Engineer. Approved changes shall be made without additional cost to the Owner for this work or related work under other Contracts of the Project.

#### 1.04 CONSTRUCTION PERMITS, EASEMENTS AND ENCROACHMENTS

- A. The Owner shall obtain or cause to be obtained all permanent and temporary construction easements as shown on the Drawings or required for completion of the Work. The

Contractor shall verify that these easements have been obtained and shall comply with the conditions set forth in each easement.

- B. The Contractor shall obtain, keep current and pay all fees for any necessary construction permits from those authorities, agencies, or municipalities having jurisdiction over land areas, utilities, or structures which are located within the Contract limits and which will be occupied, encountered, used, or temporarily interrupted by the Contractor's operations unless otherwise stated. Record copies of all permits shall be furnished to the Engineer.
- C. When construction permits are accompanied by regulations or requirements issued by a particular authority, agency or municipality, it shall be the Contractor's responsibility to familiarize himself and comply with such regulations or requirements as they apply to his operations on this Project.

#### **1.05 ADDITIONAL ENGINEERING SERVICES**

- A. In the event that the Engineer is required to provide additional engineering services as a result of substitution of materials or equipment by the Contractor which are not "or equal", or changes by the Contractor in dimension, weight, power requirements, etc., of the equipment and accessories furnished, or if the Engineer is required to examine and evaluate any changes proposed by the Contractor for the convenience of the Contractor, then the Engineer's charges in connection with such additional services shall be charged to the Contractor by the Owner.
- B. In the event that the Engineer is required to provide additional engineering services as a result of Contractor's errors, omissions, or failure to conform to the requirements of the Contract Documents, or if the Engineer is required to examine and evaluate any changes proposed by the Contractor solely for the convenience of the Contractor, then the Engineer's charges in connection with such additional services shall be charged to the Contractor by the Owner.

#### **1.06 ADDITIONAL OWNER'S EXPENSES**

- A. In the event the Work of this Contract is not completed within the time set forth in the Contract or within the time to which such completion may have been extended in accordance with the Contract Documents, the additional engineering or inspection charges incurred by the Owner may be charged to the Contractor and deducted from the monies due him. Extra work or supplemental Contract work added to the original Contract, as well as extenuating circumstances beyond the control of the Contractor, will be given due consideration by the Owner before assessing engineering and inspection charges against the Contractor.
- B. Unless otherwise specifically permitted, the normal time of work under this Contract is limited to 40 hours per week, Monday through Friday. Work beyond these hours will result in additional expense to the Owner. Any expenses and/or damages, including the cost of the Engineer's on site personnel, arising from the Contractor's operations beyond the hours and days specified above shall be borne by the Contractor.
- C. Charges assessed to the Contractor for additional engineering and inspection costs will be determined based on actual hours charged to the job by the Engineer. Daily rates will depend on the number and classifications of employees involved, but in no case shall such charges exceed \$500 per day for field personnel based on an eight hour workday. Additional charges will apply if multiple personnel are needed or if engineering time is required as part of the work outside the contract times.
- D. Charges for additional Owner's expenses shall be in addition to any liquidated damages assessed in accordance with the Contract.



## 1.07 TIME OF WORK

- A. The normal time of work for this Contract is limited to 40 hours per week and shall generally be between the hours of **7:00 a.m. and 6:00 p.m., Monday through Friday**. The Contractor may work beyond these hours or on weekends with written approval from the Owner provided that all costs incurred by the Owner for any additional engineering shall be borne by the Contractor. The Owner shall deduct the cost of additional engineering from monies due the Contractor.
- B. If it shall become imperative to perform work outside of the normal working hours the Owner and Engineer shall be informed a reasonable time in advance of the beginning of such work. Temporary lighting and all other necessary facilities for performing and inspecting the work shall be provided and maintained by the Contractor.

## 1.08 SURVEYS AND LAYOUT

- A. All work under this Contract shall be constructed in accordance with the lines and grades shown on the Drawings or as directed by the Engineer. Elevations of existing ground and appurtenances are believed to be reasonably correct but are not guaranteed to be absolute and therefore are presented only as an approximation. Any error or apparent discrepancy in the data shown or omissions of data required for accurately accomplishing the stake out survey shall be referred immediately to the Engineer for interpretation or correction.
- B. All survey work for construction control purposes shall be made by the Contractor at his expense. The Contractor shall provide a Licensed Surveyor as Chief of Party, competently qualified survey party, all necessary instruments, stakes, and other material to perform the work.
- C. Contractor shall establish all baselines for the location of the principal component parts of the work together with a suitable number of bench marks adjacent to the work. Based upon the information provided by the Contract Drawings, the Contractor shall develop and make all detail surveys necessary for construction, including stakes for all working points, lines and elevations.
- D. Contractor shall have the responsibility to carefully preserve the bench marks, reference points and stakes, and in the case of destruction thereof by the Contractor or resulting from his negligence, the Contractor shall be charged with the expense and damage resulting therefrom and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such bench marks, reference points and stakes.
- E. Existing or new control points, property markers and monuments that will be or are destroyed during the normal causes of construction shall be reestablished by the Contractor and all reference ties recorded therefore shall be furnished to the Engineer. All computations necessary to establish the exact position of the work shall be made and preserved by the Contractor.
- F. The Engineer may check all or any portion of the work and the Contractor shall afford all necessary assistance to the Engineer in carrying out such checks. Any necessary corrections to the work shall be immediately made by the Contractor. Such checking by the Engineer shall not relieve the Contractor of any responsibilities for the accuracy or completeness of his work.
- G. At completion of the work, the Contractor shall furnish Record Drawings indicating the final layout of all constructed piping and manholes and finished grades constructed or changed as part of this work.

## **1.09 FIRE PROTECTION**

- A. Contractor shall take all necessary precautions to prevent fires at or adjacent to the work and shall provide adequate facilities for extinguishing fires which do occur. Burning shall not be permitted on site.
- B. When fire or explosion hazards are created in the vicinity of the work as a result of the locations of fuel tanks or similar hazardous utilities or devices, the Contractor shall immediately alert the local Fire Marshal, the Engineer, and the Owner of such tank or device. The Contractor shall exercise all safety precautions and shall comply with all instructions issued by the Fire Marshal and shall cooperate with the Owner of the tank or device to prevent the occurrence of fire or explosion.

## **1.10 CHEMICALS**

- A. All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, or reactant of other classification, must show approval of either the EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with all applicable rules and regulations.

## **1.11 FIRST AID FACILITIES AND ACCIDENTS**

### **A. First Aid Facilities**

- 1. The Contractor shall provide at the site such equipment and facilities as are necessary to supply first aid to any of his personnel who may be injured in connection with the work.

### **B. Accidents**

- 1. The Contractor shall promptly report, in writing, to the Engineer and Owner all accidents whatsoever out of, or in connection with, the performance of the work, whether on or adjacent to the site, which cause death, personal injury or property damage, giving full details and statements of witnesses.
- 2. If death, serious injuries, or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Owner and the Engineer.
- 3. If any claim is made by anyone against the Contractor or a Subcontractor on account of any accidents, the Contractor shall promptly report the facts, in writing, to the Engineer and Owner, giving full details of the claim.

## **1.12 ULTIMATE DISPOSITION OF CLAIMS BY ONE CONTRACTOR ARISING FROM ALLEGED DAMAGE BY ANOTHER CONTRACTOR**

- A. During the progress of the Work, other Contractors may be engaged in performing other work or may be awarded other Contracts for additional work on this project. In that event, the Contractor shall coordinate the work to be done hereunder with the work of such other Contractors and the Contractor shall fully cooperate with such other Contractors and carefully fit its own work to that provided under other Contracts as may be directed by the Engineer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other Contractor.
- B. If the Engineer shall determine that the Contractor is failing to coordinate his work with the work of the other Contractors as the Engineer directed, then the Owner shall have the right to

withhold any payments otherwise due hereunder until the Contractor completely complies with the Engineer's directions.

- C. If the Contractor notifies the Engineer in writing that another Contractor is failing to coordinate his work with the work of this Contract as directed, the Engineer will promptly investigate the charge. If the Engineer finds it to be true, he will promptly issue such directions to the other Contractor with respect thereto as the situation may require. The Owner, the Engineer, nor any of their agents shall not, however, be liable for any damages suffered by the Contractor by reason of the other Contractor's failure to promptly comply with the directions so issued by the Engineer, or by reason of another Contractor's default in performance, it being understood that the Owner does not guarantee the responsibility or continued efficiency of any Contractor.
- D. The Contractor shall indemnify and hold the Owner and the Engineer harmless from any and all claims of judgments for damages and from costs and expenses to which the Owner may be subjected or which it may suffer or incur by reason of the Contractor's failure to promptly comply with the Engineer's directions.
- E. Should the Contractor sustain any damage through any act or omission of any other Contractor having a Contract with the Owner for the performance of work upon the site or of work which may be necessary to be performed for the proper execution of the work to be performed hereunder, or through any act or omission of a Subcontractor of such Contract, the Contractor shall have no claim against the Owner or the Engineer for such damage, but shall have a right to recover such damage from the other Contractor under the provision similar to the following provisions which have been or will be inserted in the Contracts with such other Contractors.
- F. Should any other Contractor having or who shall hereafter have a Contract with the Owner for the performance of work upon the site sustain any damage through any act or omission of the Contractor hereunder or through any act or omission of any Subcontractor of the Contractor, the Contractor agrees to reimburse such other Contractor for all such damages and to 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 and shall indemnify and hold the Owner harmless from all such claims.
- G. The Owner's right to indemnification hereunder shall in no way be diminished, waived or discharged, by its recourse to assessment of liquidated damages as provided in the Contract, or by the exercise of any other remedy provided for by Contract Documents or by law.

### **1.13 BLASTING AND EXPLOSIVES**

- A. No blasting allowed.

### **1.14 LIMITS OF WORK AREA**

- A. The Contractor shall confine his construction operations within the Contract limits shown on the Drawings and/or property lines and/or fence lines. Storage of equipment and materials, or erection and use of sheds outside of the Contract limits, if such areas are the property of the Owner, shall be used only with the Owner's approval. Such storage or temporary structures, even within the Contract's limits, shall not be placed on properties designated as easements or rights-of-way unless specifically permitted elsewhere in the Contract Documents.
- B. The Contractor shall secure, insure, maintain, rent/lease, and restore staging area.

- C. The Contractor shall provide Engineer and Owner copy of agreement with landowner of staging areas.

#### **1.15 WEATHER CONDITIONS**

- A. The Contractor shall take necessary precautions (in the event of impending storms) to protect all work, materials, or equipment from damage or deterioration due to floods, driving rain, or wind, and snow storms. The Owner reserves the right, through the opinion of the Engineer, to order that additional protection measures over and beyond those proposed by the Contractor, be taken to safeguard all components of the Project. The Contractor shall not claim any compensation for such precautionary measures so ordered, nor claim any compensation from the Owner for damage to the work from weather elements.

#### **1.16 PERIODIC CLEANUP: BASIC SITE RESTORATION**

- A. During construction, the Contractor shall regularly remove from the site of the work all accumulated debris and surplus materials of any kind which result from his operations. Unused equipment and tools shall be stored at the Contractor's staging area for the Project.
- B. As the work involves installation of sewers, drains, manholes, underground structures, or other disturbance of existing features in or across streets, rights-of-way, easements, or private property, the Contractor shall (as the work progresses) promptly backfill, compact, grade, and otherwise restore the disturbed area to the basic condition which will permit resumption of pedestrian or vehicular traffic and any other critical activity or functions consistent with the original use of the land. The requirements for temporary paving of streets, walks, and driveways are specified elsewhere. Unsightly mounds of earth, large stones, boulders, and debris shall be removed so that the site presents a neat appearance.
- C. The Contractor shall perform the cleanup work on a regular basis and as frequently as ordered by the Engineer. Basic site restoration in a particular area shall be accomplished immediately following the installation or completion of the required facilities in that area. Furthermore, such work shall also be accomplished, when ordered by the Engineer, if partially completed facilities must remain incomplete for some time period due to unforeseen circumstances.
- D. Upon failure of the Contractor to perform periodic cleanup and basic restoration of the site to the Engineer's satisfaction, the Owner may, upon five (5) days prior written notice to the Contractor, without prejudice to any other rights or remedies of the Owner, cause such work for which the Contractor is responsible to be accomplished to the extent deemed necessary by the Engineer, and all costs resulting therefrom shall be charged to the Contractor and deducted from the amounts of money that may be due him.

#### **1.17 USE OF FACILITIES BEFORE COMPLETION**

- A. The Owner reserves the right to enter the site and use any portion of the constructed facilities before final completion of the whole work to be done under this Contract. However, only those portions of the facilities which have been completed to the Engineer's satisfaction, as evidenced by his issuing a Certificate of Substantial Completion covering that part of the work, shall be placed in service.
- B. It shall be the Owner's responsibility to prevent premature connections to or use of any portion of the installed facilities by private or public parties, persons or groups of persons, before the Engineer issues his Certificate of Substantial Completion covering that portion of the work to be placed in service.

- C. Consistent with the approved progress schedule, the Contractor shall cooperate with the Owner, his agents, and the Engineer to accelerate completion of those facilities, or portions thereof, which have been designated for early use by the Owner.

**1.18 CONSTRUCTION VIDEO**

- A. The Contractor shall video the entire project site including all concrete and asphalt pavements, curb and gutter, fencing to remain, structures to be demolished, and existing structures that are to remain or be modified. The original video image shall be turned over to the Engineer prior to beginning construction activities. The video shall be provided as an Audio Video Interleave File (.avi) and shall be provided on DVD+R/DVD-ROM compatible media only. The video shall clearly identify existing site and structural conditions prior to construction.

**PART 2 – PRODUCT (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## SECTION 01025 - MEASUREMENT AND PAYMENT

### PART 1 - GENERAL

#### 1.01 WORK INCLUDED

The Contractor shall furnish all necessary labor, machinery, tools, apparatus, equipment, materials, equipment, service, other necessary supplies and perform all work including all excavation and backfilling (without additional compensation, except where specifically set out in these specifications) at the contract unit prices bid for the work described in Part 2 of this Section.

#### 1.02 PROGRESS AND PAYMENTS SCHEDULES

- A. Within fifteen (15) days after the date of formal execution of the Agreement (Contract), the Contractor shall prepare and submit to the Engineer, for approval, a construction schedule of the Critical Path Method (CPM) type which depicts the Contractor's plan for completing the contract requirements and show work placement in dollars versus contract time. The Contractor's construction schedule must be approved by the Engineer before any payments shall be made on this contract.
- B. Within fifteen (15) days after the date of formal execution of the Agreement (Contract), the Contractor shall prepare and submit to the Engineer, for approval, a periodic estimate which depicts the Contractor's cost for completing the contract requirements and show by major unit of the project work, the Contractor's dollar value for the material and the labor (two separate amounts) to be used as a basis for the periodic payments. The Contractor's periodic estimate must be approved by the Engineer before any payments shall be made on this contract.
- C. The Engineer's decision as to sufficiency and completeness of the Contractor's construction schedule and periodic estimate shall be final.
- D. The Contractor must make current, to the satisfaction of the Engineer, the construction schedule and periodic estimate each time the Contractor requests a payment on this contract.
- E. The Contractor's construction schedule and periodic estimate must be maintained at the construction site available for inspection and shall be revised to incorporate approved change orders as they occur.
- F. When the Contractor requests a payment on this contract, it must be on the approved periodic estimate and be current. Further, the current periodic estimate and construction schedule (both updated and revised) shall be submitted for review and approval by the Engineer before monthly payments shall be made by the Owner. The Contractor shall submit as stored materials for pay purposes.
- G. Payment for pipeline items shall be limited to seventy percent (70%) of the bid price prior to testing and acceptance by the Engineer, then shall be limited to eighty-five percent (85%) after passing testing included in the line item, and one hundred percent (100%) after rough clean up and grading (final restoration paid separately).
- H. Payment for structures (manholes, junction boxes, curb box inlets, etc) shall be limited to eighty-five percent (85%) when set and backfilled, with the remaining fifteen percent (15%) being paid after passing testing (if applicable).
- I. Refer to Section 00800, Articles 14.02.A.6-8 for retainage requirements.

#### **1.04 CLAIMS FOR EXTRA WORK**

- A. If the Contractor claims that any instructions by Drawings or otherwise involve extra cost, the Contractor shall give the Engineer written notice of said claim within seven (7) days after the receipt of such instructions, and in any event before proceeding to execute the work, stating clearly and in detail the basis of its claim or claims. No such claim shall be valid unless so made.
- B. Claims for additional compensation for extra work, due to alleged errors in spot elevations, contour lines, or bench marks, shall not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material, or performing more work than would reasonably be estimated from the Drawings and topographical maps issued.
- C. Any discrepancies which may be discovered between actual conditions and those represented by the topographical maps and Drawings shall at once be reported to the Engineer, and work shall not proceed, except at the Contractor's risk, until written instructions have been received by the Contractor from the Engineer.
- D. If, on the basis of the available evidence, the Engineer determines that an adjustment of the Contract Price or time is justifiable, the procedure shall then be as provided herein for "Changes in the Work".
- E. By execution of this Contract, the Contractor warrants that it has visited the site of the proposed work and fully acquainted himself with the conditions there existing relating to construction and labor, and that it fully understands the facilities, difficulties, and restrictions attending the execution of the work under this Contract. The Contractor further warrants that it has thoroughly examined and is familiar with the Drawings, Specifications and all other documents comprising the Contract. The Contractor further warrants that by execution of this Contract its failure when it was bidding on this Contract to receive or examine any form, instrument or document, or to visit the site and acquaint himself with conditions there existing, in no way relieves the Contractor from any obligation under the Contract, and the Contractor agrees that the Owner shall be justified in rejecting any claim based on facts regarding which it should have been on notice as a result thereof.

#### **1.05 DETERMINATION OF THE VALUE OF EXTRA (ADDITIONAL) OR OMITTED WORK**

- A. The value of extra (additional) or omitted work shall be determined in one or more of the following ways:
  - 1. On the basis of the actual cost of all the items of labor (including on-the-job supervision), materials, and use of equipment, plus a maximum 15 percent for added work or a minimum 15 percent for deleted work which shall cover the Contractor's general supervision, overhead and profit.
    - a. Labor may include on-site supervision, on-site project management, in addition to field personal associated with the work.
    - b. In case of subcontracts, the 15 percent (maximum for added work and minimum for deleted work) is interpreted to mean the subcontractor's supervision, overhead and profit, and an additional 5 percent (maximum for added work and minimum for deleted work) may then be added to such costs to cover the General Contractor's supervision, overhead and profit.
    - c. The cost of labor shall include required insurance, taxes and fringe benefits.
    - d. Equipment costs shall be based on current rental rates in Lexington, KY.
  - 2. By estimate and acceptance in a lump sum.

3. By unit prices named in the Contract or subsequently agreed upon.
- B. Provided, however, that the cost or estimated cost of all extra (additional) work shall be determined in advance of authorization by the Engineer and approved by the Owner.
- C. All extra (additional) work shall be executed under the conditions of the original Contract. Any claim for extension of time shall be adjusted according to the proportionate increase or decrease in the final total cost of the work unless negotiated on another basis.
- D. Except for over-runs in contract unit price items, no extra (additional) work shall be done except upon a written Change Order from the Engineer, and no claim on the part of the Contractor for pay for extra (additional) work shall be recognized unless so ordered in writing by the Engineer.

## **PART 2 - PRODUCTS**

### **2.01 MOBILIZATION**

Payment for the Contractor's mobilization shall be made at the Contract lump sum price and shall include all costs incurred for moving equipment onto the project area, staging, security fencing, and any pertinent costs related thereto, for the duration of the contract term. Mobilization unit price shall not exceed two percent (2%) of the total Bid Amount.

### **2.02 BONDS AND INSURANCE**

Payment for bonds and insurance shall be made at the Contract lump sum price, and shall include the costs of all bonds provided under the Contract, and the premiums for insurance required under the Contract, for the duration of the contract term. Unit price shall be based on actual invoices and payment shall be made upon receipt of invoices attached to a monthly progress payment request.

### **2.03 GENERAL REQUIREMENTS**

Payment for general requirements shall be made at the Contract lump sum price and shall include field supervision and support staff, office supervision and support staff, costs associated with maintaining the field operation, and other items required by the general requirements and conditions of the Contract. Payment for General Requirements shall be made on an equal distribution across the Contract term on a monthly basis.

### **2.04 DEMOBILIZATION**

Payment for the Contractor's demobilization upon completion of the project shall be made at the Contract lump sum price and shall include all costs incurred for removing equipment and materials from the project area and any pertinent costs related thereto, for the duration of the Contract term. Demobilization unit price shall not exceed one percent (1%) of the total Bid Amount.

### **2.05 EROSION AND SEDIMENT CONTROL AND CONFORMANCE WITH SWPPP**

Payment is for furnishing, installing, maintaining and removing erosion and sediment control devices. This is to be paid at the contract lump sum price, complete in place, which shall include compensation for materials, placing, cleaning, and maintaining the sediment and erosion control devices throughout the construction period and removal of the of the sediment and erosion control devices once vegetation is established. Payment shall be distributed as follows: 25% when all ESC measures are in place and operating correctly; 50% equally distributed across the Contract term; and 25% for the removal of the ESC measures and final stabilization/restoration.



## **2.06 PVC (SDR 35) GRAVITY SEWER LATERAL**

Payment is for furnishing and installing 6-inch gravity sewer laterals at the contract unit price per linear foot, per the Bid Schedule. This is to be paid at the contract unit price, complete in place, which shall include compensation for pipe, reducers, spool pieces, fittings (excluding items included in cleanout pay item), materials, hauling, excavation (including rock excavation), shoring, sheeting, removal of existing lateral, bedding, backfilling, cleanup, restoration, testing, and all other items necessary for a complete installation.

## **2.07 DIG AND REPLACE EXISTING GRAVITY SEWER PIPE**

Payment is for digging and removal of the existing gravity sewer pipe and furnishing and installation of the new larger diameter sewer pipe at the contract unit price per linear foot, based on the line size and burial depth of the new sewer pipe as indicated on the Bid Schedule. Depth of burial is measured from existing ground surface to invert of sewer pipe and paid for accordingly. The quantity of sewer to be paid for shall be the actual length of installed in trench and into boot of manhole. Fittings and tees are paid for separately under a different pay item and not included in the length of pipe. Dig and replacement of gravity sewer pipe is to be paid at the contract unit price, complete in place, which shall include compensation for clearing and grubbing, excavation and removal of the existing sewer pipe, additional excavation required for the new larger diameter sewer pipe (including rock excavation), the sewer pipe, materials, hauling, shoring, sheeting, bedding, backfilling, cleanup, restoration (excluding permanent seeding), testing, and all other items necessary for a complete installation.

Additionally, the cost of this pay item shall include the removal of all existing manholes that fall into the "dig and replace" sections of work shown on the drawings. The installation of the new manhole will NOT be included in this pay item and will be included in the "Manhole" pay item below.

Additionally the cost to remove the existing basketball court (see drawing C-03), the tennis court (see drawing C-07) and the existing basketball court (see drawing C-08) shall be include in this pay item. This shall include all full removal of the basketball goal (where noted), the basketball court surface, and the tennis court's fence, net, net posts and tennis court surface. Backfilling with topsoil to match surrounding grade per method B, cleanup and site restoration of the full court areas.

## **2.08 GRAVITY SEWER PIPE**

Payment is for furnishing and installing Gravity Sewer Pipe at the contract unit price per linear foot, based on the line size and burial depth as indicated on the Bid Schedule. Depth of burial is measured from existing ground surface to invert of sewer pipe and paid for accordingly. The quantity of sewer to be paid for shall be the actual length of installed in trench and into boot of manhole. Fittings and tees are paid for separately under a different pay item and not included in the length of pipe. Gravity sewer pipe is to be paid at the contract unit price, complete in place, which shall include compensation for pipe, materials, hauling, clearing and grubbing, excavation (including rock excavation), shoring, sheeting, bedding, backfilling, cleanup, restoration (excluding permanent seeding), testing, and all other items necessary for a complete installation.

## **2.09 INSERT-A-TEE**

Payment is for furnishing and installing Insert-A-Tee Fittings for Gravity Sewers at the contract unit price per each, based on the line size as indicated on the Bid Schedule. This is to be paid at the contract unit price, complete in place, which shall include compensation for materials, reducer fittings (if required), hauling, excavation (including rock excavation), shoring, sheeting, bedding, backfilling, cleanup, testing, and all other items necessary for a complete installation.

## **2.10 CONNECTION TO EXISTING GRAVITY SEWER (36")**

For pipes 12" and larger, payment shall be made for furnishing and installing a Connection to Existing Sewer. This is to be paid at the contract unit price, based on the line size as indicated on the Bid Schedule, complete in place, which shall include compensation for coupling, one full length of pipe, materials, hauling, excavation (including rock excavation), shoring, sheeting, bedding, forming and placing (constructing) concrete cradle, backfilling, cleanup, testing, and all other items necessary for a complete installation.

## **2.11 INSTALL CLEANOUT**

Payment is for furnishing and installing a 6" Cleanout at the contract unit price each, based on the Bid Schedule. This is to be paid at the contract unit price, complete in place, which shall include compensation for cleanout casting, tee or wye, spool piece of pipe between cleanout casting and tee/wye, Fernco Strongback adapter to reconnect to the existing service, concrete collar, required fittings to adapt to existing line size, reconnection to existing service line, materials, hauling, excavation (including rock excavation), shoring, sheeting, bedding, backfilling, cleanup, testing, and all other items necessary for a complete installation.

## **2.12 MANHOLE ABANDONMENT**

Payment is for Manhole Abandonment at the contract unit price each. This is to be paid at the contract unit price, complete in place, which shall include compensation for excavation (including rock excavation), demolition/removal of the top manhole section (3 foot minimum), disposal, concrete, crushed stone fill, backfilling, cleanup, restoration, and all other items necessary for the complete abandonment of the manhole.

## **2.13 MANHOLE REMOVAL (MH# WR2\_100A; MH# WR3\_10A; MH# WR3\_10B & MH# WR3\_3)**

Payment is for Manhole Removal at the contract unit price each. This is to be paid at the contract unit price, complete in place, which shall include compensation for excavation (including rock excavation), complete removal of the existing manhole, disposal, backfilling (as required by location), cleanup, restoration, and all other items necessary for the complete removal of the manhole.

Note this pay item does NOT included the manholes that are being removed in sections of the "Dig and Replace Sewers" shown on the drawings. That work will be included in the "Dig and Replace Existing Gravity Sewer Pipe" pay item above.

## **2.14 MANHOLE**

Payment is for furnishing and installing a Manhole, based on the size and depth as indicated on the Bid Schedule. This is to be paid at the contract unit price each, complete in place, which shall include compensation for the manhole casting, Xypex or Conshield admixture, boots, steps, gaskets, crushed stone, SS frame anchors, infiltration pans, frame and cover, grout, materials, removal of existing manhole, hauling, excavation (including rock excavation), bedding, backfilling, testing, cleanup, and all other items necessary for a complete installation on new or existing sewer lines.

## **2.15 MANHOLE BARREL EXTENSION**

Payment is for furnishing and installing a Manhole Barrel Extension, based on the size as indicated on the Bid Schedule. This is to be paid at the contract unit price per vertical foot, complete in place, which shall include compensation for manhole casting, Xypex or Conshield admixture, steps, grout, sealant, materials, hauling, excavation (including rock excavation), bedding, backfilling, cleanup, testing, coating, and all other items necessary for a complete installation on new or existing sewer lines.

## **2.16 INTERNAL MANHOLE DROP CONNECTION**

Payment is for furnishing and installing a Manhole Drop Connection, based on the size as indicated on the Bid Schedule. This is to be paid at the contract unit price each, complete in place, which shall include compensation for piping/ fittings cast into manhole concrete, Fernco couplings, Kor-n-seal connector, drop bowl mounting, Reliner-Duran drop bowl assembly and clamping, SS brackets, materials, assembly, installation, testing, and all other items necessary for a complete installation on new or existing sewer lines.

## **2.17 EXTERNAL MANHOLE DROP CONNECTION**

Payment is for furnishing and installing a Manhole Drop Connection, based on the size as indicated on the Bid Schedule. This is to be paid at the contract unit price each, complete in place, which shall include compensation for concrete encasement, reinforcement, piping/ fittings cast into manhole concrete, materials, assembly, installation, testing of the drop connection, and all other items necessary for a complete installation on new or existing sewer lines.

## **2.18 MANHOLE ACCESSORIES FOR LOCATION WITHIN 100-YEAR FLOODPLAIN**

Payment is for furnishing and installing a manhole diaphragm, a concrete anti-flotation collar cast into the manhole, and the additional cost to provide a watertight cover instead of standard cover for frame. This is to be paid at the contract unit price each, complete in place, which shall include compensation for diaphragm, concrete collar cast into the manhole, upcharge for watertight cover, materials, installation, and all other items necessary for a complete installation.

## **2.19 RECONNECT EXISTING GRAVITY SEWER OR SERVICE LATERAL TO NEW MANHOLE**

Payment is for furnishing and installing a new manhole connection to an existing gravity sewer or service lateral based on the size as indicated on the bid schedule. This is to be paid at the contract unit price each, complete in place, which shall include compensation for gasket, Fernco Strongback coupling, full length of pipe, grout, materials, furnishing, excavation (including rock excavation), bedding, backfilling, cleanup, coring, and all other items necessary for a complete installation.

## **2.20 CUT AND CAP EXISTING SEWER**

Payment is for cutting and capping existing sewer, based on the size as indicated on the Bid Schedule. This is to be paid at the contract unit price each, complete in place, which shall include compensation for concrete, cutting pipe, materials, equipment, excavation (including rock excavation), backfilling, cleanup, restoration, and all other items necessary for a complete capping.

## **2.21 PIPE ABANDONMENT, SAFELOAD**

Payment is for abandoning an existing sewer by safeloading, at the contract unit price per linear foot based on the size as indicated on the Bid Schedule. This is to be paid at the contract unit price, complete in place, which shall include compensation for concrete, cutting pipe, materials, equipment, excavation (including rock excavation), backfilling, cleanup, restoration, and all other items necessary for a complete installation.

## **2.22 PLUG MANHOLE INLET**

Payment is for installing plug on spool section of pipe entering manhole, based on the size as indicated on the Bid Schedule. This is to be paid at the contract unit price each, complete in place, which shall include compensation for concrete, grout, cutting pipe, materials, equipment, excavation (including rock excavation), backfilling, cleanup, restoration, manhole inlet modification and all other items necessary for a complete capping.

## **2.23 CREEK CROSSING AND BANK/BED RESTORATION**

Payment is for furnishing, installing and maintaining each creek crossing and restoring the stream bank and bed. This is to be paid at the lump sum contract price, complete in place, which shall include compensation for excavation (including rock excavation), concrete (where noted), materials, woven coir fabric with seed and straw, Class I nonwoven geotextile, bedding, backfilling, stone, cleanup, restoration, seeding, plantings, and all other items necessary for a complete installation on new or existing sewer lines.

## **2.24 VIDEO INSPECTION OF NEW SEWER PIPE**

Payment for video inspection shall be made at the contract price per linear foot, including dewatering of pipe, bypass pumping, maintenance of traffic, hydraulic jet cleaning, disposal of debris, furnishing all labor, materials, tools, equipment, and incidentals, and doing all the work involved to perform sewer video inspections, including delivery of DVDs and written logs of the sewer videos to the Owner.

## **2.25 BITUMINOUS CONCRETE: TRENCH CONSTRUCTION, STREET**

Payment for bituminous concrete relating to trench construction in streets shall be paid for at the Contract unit price per square yard, which shall include placement of aggregate, compaction, bituminous concrete, removal of existing surface, placement of bituminous concrete, taper of new pavement into existing pavement, and all appurtenances necessary for a complete installation.

## **2.26 BITUMINOUS CONCRETE: DRIVEWAYS**

Payment for bituminous concrete relating to construction in driveways shall be paid for at the Contract unit price per square yard, which shall include placement of aggregate, compaction, bituminous concrete, removal of existing surface, placement of bituminous concrete, proper grading, taper of new pavement into existing pavement, and all appurtenances necessary for a complete installation.

## **2.27 BITUMINOUS CONCRETE: PRIVATE PARKING LOT**

Payment for bituminous concrete relating to construction in private parking lots shall be paid for at the Contract unit price per square yard, which shall include placement of aggregate, compaction, bituminous concrete, removal of existing surface, placement of bituminous concrete, proper grading, taper of new pavement into existing pavement, and all appurtenances necessary for a complete installation.

## **2.28 PORTLAND CEMENT CONCRETE PAVING: PRIVATE PARKING LOTS/DRIVEWAYS/APRONS**

Payment for Portland cement concrete relating to private parking lots, driveways, and aprons shall be paid for at the Contract unit price per square yard, which shall include placement of aggregate, compaction, Portland cement concrete, removal of existing surface, placement of Portland cement concrete, proper grading, taper of new surface into existing surface, and all appurtenances necessary for a complete installation.

## **2.29 ASPHALT PAVEMENT PATCH**

Payment for asphalt pavement patch shall be paid for at the Contract unit price per square yard, which shall include saw cutting and removal of existing pavement, placement of new asphalt pavement (depth to match existing), compaction, all maintenance of traffic, including flaggers, arrow board, message board, etc., and all appurtenances and manpower necessary for a complete installation.

**2.30 MISCELLANEOUS ROADWAY/PARKING LOT MARKINGS**

Payment for miscellaneous roadway markings shall be paid for at the Contract lump sum, which shall include materials, placement of stop bars, lettering, parking space striping, etc, all maintenance of traffic, including flaggers, arrow board, message board, etc., and all appurtenances and manpower necessary for a complete installation.

**2.31 STORM SEWER REMOVAL AND REPLACEMENT**

Payment is for removal and replacement (furnishing and installing) storm sewers at the contract unit price per linear foot, based on the line size as indicated on the Bid Schedule. This is to be paid at the contract unit price, complete in place, which shall include compensation for pipe, materials, connections, hauling, excavation (including rock excavation), bedding, backfilling, cleanup, maintenance of traffic, removal of existing storm sewer, and all other items necessary for a complete installation.

**2.32 PRECAST CONCRETE HEADWALL**

Payment is for furnishing and installing each precast concrete headwall at the contract unit price each. This is to be paid at the contract unit price, complete in place, which shall include compensation for casting, materials, hauling, excavation (including rock excavation), bedding, backfilling, removal of existing headwall, disposal of waste material, cleanup, maintenance of traffic, removal of existing headwall, and all other items necessary for a complete installation.

**2.33 REMOVE AND REPLACE CURB BOX INLET**

Payment is for removal and replacement (furnishing and installing) each curb box inlet at the contract unit price each. This is to be paid at the contract unit price, complete in place, which shall include compensation for casting, materials, hauling, excavation (including rock excavation), bedding, backfilling, disposal of waste material, cleanup, maintenance of traffic, removal of existing curb box inlet, and all other items necessary for a complete installation.

**2.34 SEEDING, TEMPORARY, EXTRA AS DIRECTED BY ENGINEER**

Payment for temporary seeding shall be paid for at the Contract unit price per square yard, which shall include seed, fertilizer, lime, mulch/straw/netting, placement, watering and maintenance throughout the duration of the contract, and all appurtenances necessary for a complete installation.

**2.35 SITE RESTORATION, METHOD A**

Payment for site restoration method A (as defined in the General Notes), shall be paid for at the Contract unit price per square yard, which shall include sod, fertilizer, lime, placement, watering and maintenance throughout the duration of the contract, and all appurtenances necessary for a complete installation.

**2.36 SITE RESTORATION, METHOD B**

Payment for site restoration, method B (as defined in the General Notes), shall be paid for at the Contract unit price per square yard, which shall include seed, fertilizer, lime, placement, watering and maintenance throughout the duration of the contract, and all appurtenances necessary for a complete installation.

## **2.37 SITE RESTORATION, METHOD C**

Payment for site restoration, method C (as defined in the General Notes), shall be paid for at the Contract unit price per square yard, which shall include seed, fertilizer, lime, mulch/straw/netting, placement, watering and maintenance throughout the duration of the contract, and all appurtenances necessary for a complete installation.

## ~~2.38 SOD~~

~~Payment for sod shall be paid for at the Contract unit price per linear foot, which shall include sod, fertilizer, lime, placement, watering and maintenance throughout the duration of the contract, and all appurtenances necessary for a complete installation.~~

## **2.38 Not Used - ADD #4 (01/28/2021)**

## **2.39 MONOLITHIC CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT**

Payment for monolithic concrete curb and gutter removal and replacement shall be paid for at the Contract unit price per linear foot, which shall include base, compaction, formwork, concrete, placement of monolithic concrete curb and gutter, curing compound, maintenance of traffic, removal of existing curb and gutter, and all appurtenances necessary for a complete installation.

## **2.40 CONCRETE CURB REMOVAL AND REPLACEMENT**

Payment for concrete curb removal and replacement shall be paid for at the Contract unit price per linear foot, which shall include base, compaction, formwork, concrete, placement of concrete curb, curing compound, maintenance of traffic, removal of existing curb, and all appurtenances necessary for a complete installation.

## **2.41 BITUMINOUS CURB REMOVAL AND REPLACEMENT**

Payment for bituminous curb removal and replacement shall be paid for at the Contract unit price per linear foot, which shall include base, compaction, bituminous asphalt, placement of bituminous curb, maintenance of traffic, removal of existing curb, and all appurtenances necessary for a complete installation.

## **2.42 DENSE GRADED AGGREGATE – DGA, EXTRA AS DIRECTED BY ENGINEER**

Payment for dense graded aggregate shall be paid for at the Contract unit price per ton, which shall include placement of aggregate, compaction and all appurtenances necessary for a complete installation.

## **2.43 NO. 9 CRUSHED STONE, EXTRA AS DIRECTED BY ENGINEER**

Payment for No. 9 crushed stone shall be paid for at the Contract unit price per ton, which shall include placement of aggregate, compaction and all appurtenances necessary for a complete installation.

## **2.44 NO. 57 CRUSHED STONE, EXTRA AS DIRECTED BY ENGINEER**

Payment for No. 57 crushed stone shall be paid for at the Contract unit price per ton, which shall include placement of aggregate, compaction and all appurtenances necessary for a complete installation.

**2.45 NO. 2 CRUSHED STONE, EXTRA AS DIRECTED BY ENGINEER**

Payment for No. 2 crushed stone shall be paid for at the Contract unit price per ton, which shall include placement of aggregate, compaction and all appurtenances necessary for a complete installation.

**2.46 FLOWABLE (CONTROLLED DENSITY) FILL**

Payment for flowable fill shall be paid for at the Contract unit price per cubic yard measured in-place, which shall include placement of flowable fill, maintenance of traffic, and all appurtenances necessary for a complete installation.

**2.47 CONCRETE SIDEWALK**

Payment for concrete sidewalk removal and replacement shall be paid for at the Contract unit price per square yard, which shall include excavation, crushed stone, formwork, compaction, placement of concrete sidewalk, expansion joints, curing compound, and all appurtenances necessary for a complete installation.

**2.48 RECREATIONAL PARK ASPHALT SIDEWALK**

Payment for park sidewalk removal and replacement shall be paid for at the Contract unit price per square yard, which shall include excavation, crushed stone, formwork, compaction, placement of asphalt sidewalk, expansion joints, curing compound, and all appurtenances necessary for a complete installation.

**2.49 SIDEWALK RAMPS, INCLUDING DETECTABLE WARNINGS**

Payment for concrete sidewalk ramps removal and replacement shall be paid for at the Contract unit price per each, which shall include excavation, crushed stone, formwork, compaction, placement of concrete sidewalk, detectable warning tile, expansion joints, curing compound, and all appurtenances necessary for a complete installation.

**2.50 CHAIN LINK FENCE**

Payment for chain link fence removal and replacement shall be paid for at the Contract unit price per linear foot, which shall include posts, anchoring, concrete, fencing, gates, and all appurtenances necessary for a complete installation. Chain link fence shall be replaced from post to post unless specifically noted otherwise on the plans.

**2.51 PRIVACY FENCE (WOODEN)**

Payment for privacy fence removal and replacement shall be paid for at the Contract unit price per linear foot, which shall include posts, anchoring, concrete, fencing, gates, and all appurtenances necessary for a complete installation.

**2.52 BYPASS PUMPING AND SETUP**

Payment is for operation and setup of bypass pumping required for installation of all items shown in Contract Documents. This is to be paid for at the Contract lump sum as indicated on the Bid Schedule. Work shall be complete in place, which shall include compensation for all mobilizations, set ups, testings (per section 01520), takedowns, relocations, and demobilization for the pumps, hoses, line plugs, generator, rental fees, fuel, monitoring, piping, duty and backup pumps, check valve, adapters, hose, labor, maintenance, and all appurtenances necessary for the continued setup and operation of the bypass pumping system throughout the project. Provision of redundant pumping capability per Section 01520 is incidental to the cost of

bypass pumping and shall be included in this pay item.

#### **2.53 SSO SITE CLEANUP**

Payment is for SSO site cleanup. This is to be paid at the contract unit price each, which shall be compensation for all labor and materials, including raking, disposal of waste materials, washing down the area, disinfection, and all equipment and materials necessary.

#### **2.54 MAINTENANCE OF TRAFFIC**

Payment is maintenance of traffic. This is to be paid at the contract lump sum price, complete in place, which shall include compensation for flaggers, arrow board, message board, etc., removal of equipment after work is completed, and all appurtenances and manpower necessary.

#### **2.55 MISCELLANEOUS SITE IMPROVEMENTS**

An allocation has been established for Miscellaneous Site Improvements or other work not included in the Contract Documents but deemed necessary for the project during construction. Miscellaneous Site Improvements will be as directed by the Engineer in a Field Order which will document costs associated with the directed Miscellaneous Site Improvement(s). Costs shall include all labor, equipment, materials, and other incidental costs required to perform the directed work. Funds from the Miscellaneous Site Improvements allocation not encumbered by a Field Order will be credited to the final contract amount in a Final Adjusting Change Order.

#### **2.56 GRAVITY SEWER CONNECTION TO EXISTING MANHOLE**

Payment for the connection of new gravity sewer to an existing manhole shall be made at the Contract unit price each in-place. This cost will include all labor, material, and equipment to install the gravity sewer through the wall of the existing manhole, patch the manhole wall, remove the apron and invert and construct a new apron and invert in accordance with these plans and detailed specifications. All concrete, pipe, plugs, sealant, etc. shall be considered a part of this pay item.

#### **2.57 CLEARING AND GRUBBING**

Payment for clearing and grubbing shall be paid for at the Contract lump sum, which shall include equipment, excavation, removal of trees of all sizes, hauling backfilling, and all appurtenances necessary for complete removal.

#### **2.58 CURED-IN-PLACE PIPE (CIPP) – ADDITIVE ALTERNATE NO. 1**

Payment is for furnishing and installing CIPP at the contract unit price per linear foot, based on the line size as indicated on the Bid Schedule. This is to be paid at the contract unit price, complete in place, which shall include compensation for pre-cleaning, materials, installation, curing, hauling, reconnection of laterals, pre- and post-inspection, cleanup, and all other items necessary for a complete installation.

### **PART 3 - EXECUTION**

#### **3.01 PAY ITEMS**

- A. The pay items listed hereinbefore refer to the items listed in the Bid Schedule and are the only pay items for this contract.
- B. Any and all other items of work listed in the specifications or shown on the Contract Drawings for this contract shall be considered incidental to and included in the associated pay items.



## **SECTION 01040 - COORDINATION**

### **PART 1 - GENERAL**

#### **1.01 THE REQUIREMENT**

- A. The Contractor shall allow the Owner or his agents, and other project Contractors or their agents, to enter upon the work for the purpose of constructing, operating, maintaining, removing, repairing, altering, or replacing such pipes, sewers, conduits, manholes, wires, poles, or other structures and appliances which may be required to be installed at or in the work. The Contractor shall cooperate with all aforesaid parties and shall allow reasonable provisions for the prosecution of any other work by the Owner, or others, to be done in connection with his work, or in connection with normal use of the facilities.
- B. Each Contractor shall cooperate fully with the Owner, the Engineer, and all other Contractors employed on the Work, to effect proper coordination and progress to complete the project on schedule and in proper sequence. Insofar as possible, decisions of all kinds required from the Engineer shall be anticipated by the Contractor to provide ample time for inspection, or the preparation of instructions.
- C. Each Contractor shall assume full responsibility for the correlation of all parts of his work with that of other Contractors. Each Contractor's superintendent shall correlate all work with other Contractors in the laying out of work. Each Contractor shall lay out his own work in accordance with the Drawings, Specifications, and instructions of latest issue and with due regard to the work of other Contractors.
- D. Monthly general progress coordination meetings will be held at regularly scheduled times convenient for all parties involved. These meetings are in addition to specific meetings held for other purposes, such as special pre-installation meetings. Representation at each meeting by every part currently involved in coordination or planning for the work of the entire project is requested. Meetings shall be conducted in a manner that will resolve coordination problems. Results of the meetings shall be recorded and copies distributed to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

#### **1.02 COORDINATION OF CRAFTS, TRADES, AND SUBCONTRACTORS**

- A. The Contractor shall coordinate the work of all crafts, trades and subcontractors engaged on the Work, and he shall have final responsibility as regards the schedule, workmanship and completeness of each and all parts of the work.
- B. Each Subcontractor is expected to be familiar with the General requirements and all sections of the detailed Specifications for all other trades and to study all Drawings applicable to his work to the end that complete coordination between trades will be effected. Consult the Engineer if conflicts exist on the Drawings.
- C. Contractor's Superintendent, or his designee who is employed by Contractor, must be on site at all times when work is being performed, except for periods which will not exceed 1 hour.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01200 - PROJECT MEETINGS**

### **PART 1 - GENERAL**

#### **1.01 PRECONSTRUCTION MEETING**

- A. A preconstruction meeting will be held after Award of Contract, but prior to starting work at the site. Contractor's Project Manager and Site Superintendent are required to attend, as are representatives of all major subcontractors. Progress schedule update shall be submitted in advance of each meeting.

#### **1.02 PROGRESS MEETINGS**

- A. Progress meetings will be held monthly at the Division of Water Quality offices during the performance of the Work. Additional progress meetings may be called as progress of work dictates. Prior to each progress meeting, Contractor shall submit a progress report summarizing the work completed over the past month and providing a look ahead at the work to be done over the next month.
- B. Minimum Agenda for meeting shall include:
1. Review and approve minutes of previous meetings.
  2. Review progress of Work since last meeting.
  3. Review proposed 30 day construction schedule.
  4. Note and identify problems which impede planned progress.
  5. Develop corrective measures and procedures to regain planned schedule.
  6. Revise construction schedule as indicated and plan progress during next work period.
  7. Maintaining of quality and work standards.
  8. Complete other current business.
  9. Schedule next progress meeting.

#### **1.03 SPECIAL MEETINGS**

- A. Owner or Engineer may schedule special meetings at the site or at Division of Water Quality offices to resolve construction issues. Contractor and when appropriate, subcontractors, shall attend upon request. No additional compensation shall be paid for meeting attendance.

### **PART 2 – PRODUCTS**

**(NOT USED)**

### **PART 3 – EXECUTION**

**(NOT USED)**

END OF SECTION

## **SECTION 01210 - ALLOWANCES**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. This Section includes administrative and procedural requirements governing allowances. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Defined allowances. Defined allowances include equipment, systems, or services that have been selected by the Owner from a designated supplier. These will be handled in accordance with paragraph 1.06 of this specification.
  - 2. Undefined allowances. Undefined allowances are intended for work which has an unknown scope at the time of bidding. These will be handled in accordance with paragraph 1.07 of this specification.
- C. The following allowances shall be included in the Contractor's bid:
  - 1. Miscellaneous Site Improvements - \$300,000

#### **1.02 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### **1.03 SELECTION AND PURCHASE**

- A. At the earliest practical date after award of the Contract, Contractor shall advise Engineer of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Engineer's request, obtain proposals for each allowance for use in making final selections and include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by the Engineer from the designated supplier.

#### **1.04 SUBMITTALS**

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

## **1.05 COORDINATION**

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

## **1.06 DEFINED ALLOWANCES**

- A. Defined allowances shall include cost to Contractor of specific products and materials ordered by the Contractor under allowance and shall include taxes, freight, and delivery to the project site. Defined allowances are the same as Cash Allowances as defined in Article 11.02 of the General Conditions.
- B. Contractor's costs at the Project site for labor, installation, overhead and profit, and similar costs related to the equipment ordered under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Contractor shall not be allowed any markup of subcontractors work or materials under the allowances. Markup shall be included as part of the Contract sum and not part of the allowance.

## **1.07 UNDEFINED ALLOWANCES**

- A. Undefined allowances shall include work for which the scope is not yet determined. The allowance amount is not guaranteed and is solely for the purpose of determining an initial Contract Price. Undefined allowances are the same as Contingency Allowances as defined in Article 11.02 of the General Conditions.
- B. Once the scope of work is defined, the Contractor shall present cost and schedule as listed in 1.04.A above.

## **1.08 UNUSED MATERIALS**

- A. Contractor shall be responsible for returning unused materials purchased under an allowance to the manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
- B. When it is not economically practical to return material for credit, Contractor shall be responsible for preparing and delivering unused material to Owner's designated storage location. Otherwise, disposal of unused material shall be Contractor's responsibility.

## **PART 2 - PRODUCTS**

**(NOT USED)**

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

### **3.02 PREPARATION**

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION

- c. Dates on which Shop Drawings are submitted to the Engineer and returned by the Engineer for revision.
- d. Dates on which Shop Drawings are revised by manufacturer and resubmitted to the Engineer.
- e. Date on which Shop Drawings are returned by Engineer annotated either "Furnish as Submitted" or "Furnish as Corrected".
- f. Date on which accepted Shop Drawings are transmitted to manufacturer.
- g. Date of manufacturer's scheduled delivery.
- h. Date on which delivery is actually made.

#### C. Working Drawings

1. Within thirty (30) days after the Notice to Proceed, each prime Contractor shall prepare and submit three (3) copies of his preliminary schedule of Working Drawing submittals to the Engineer for review and approval. If so required, the schedule shall be revised until it is approved by the Engineer.
2. Working Drawings include, but are not limited to, Shop Drawings, layout drawings in plan and elevation, installation drawings, etc. Contractor shall be responsible for securing all of the information, details, dimensions, Drawings, etc., necessary to prepare the Working Drawings required and necessary under this Contract and to fulfill all other requirements of his Contract. Contractor shall secure such information, details, Drawings, etc., from all possible sources including the Drawings, Working Drawings prepared by subcontractors, Engineers, suppliers, etc.
3. In the event that the Engineer is required to provide additional engineering services as a result of a substitution of materials or equipment by the Contractor, the additional services will be provided in accordance with Section 01010 - Summary of Work, and will be covered in supplementary or revised Drawings which will be issued to the Contractor. All changes indicated that are necessary to accommodate the equipment and appurtenances shall be incorporated into the Working Drawings submitted to the Engineer.
4. Shop Drawings
  - a. Contractor shall submit for review by the Engineer Shop Drawings for all fabricated work and for all manufactured items required to be furnished by the Contract Documents.
  - b. Structural and all other layout Drawings prepared specifically for the Project shall have a plan scale of not less than 1/4-inch = 1 foot.
  - c. The submitted documents shall provide information indicating that the materials are in conformance with the Technical Specifications and Contract Documents.
  - d. Where manufacturer's publications in the form of catalogs, brochures, illustrations or other data sheets are submitted in lieu of prepared Shop Drawings, such submittals shall specifically indicate the item for which approval is requested. Identification of items shall be made in ink, and submittals showing only general information are not acceptable.
5. Contractor Responsibilities

- a. All submittals from subcontractors, manufacturers or suppliers shall be sent directly to the Contractor for checking. Contractor shall thoroughly check all Drawings for accuracy and conformance to the intent of the Contract Documents. Drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors, manufacturers, or suppliers by the Contractor for correction before submitting them to the Engineer.
- b. All submittals shall be bound, dated, properly labeled and consecutively numbered. Information on the label shall indicate Specification Section, Drawing number, subcontractors', manufacturer's or supplier's name and the name or type of item the submittal covers. Each part of a submittal shall be marked and tabulated.
- c. Working Drawings shall be submitted as a single complete package including all associated drawings relating to a complete assembly of the various parts necessary for a complete unit or system.
- d. Shop Drawings shall be submitted as a single complete package for any operating system and shall include all items of equipment and any mechanical units involved or necessary for the functioning of such system.
- e. ALL SUBMITTALS SHALL BE THOROUGHLY CHECKED BY THE CONTRACTOR FOR ACCURACY AND CONFORMANCE TO THE INTENT OF THE CONTRACT DOCUMENTS BEFORE BEING SUBMITTED TO THE ENGINEER AND SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL CERTIFYING THAT THEY HAVE BEEN SO CHECKED. SUBMITTALS WITHOUT THE CONTRACTOR'S STAMP OF APPROVAL WILL NOT BE REVIEWED BY THE ENGINEER AND WILL BE RETURNED TO THE CONTRACTOR. Any comments added to the drawings by the Contractor shall be done in green ink so as to denote any Contractor notes.
- f. If the submittals contain any departures from the Contract Documents, specific mention thereof shall be made in the Contractor's letter of transmittal. Otherwise, the review of such submittals shall not constitute approval of the departure.
- g. No materials shall be ordered, fabricated or shipped or any work performed until the Engineer returns to the Contractor the submittals, herein required, annotated either "Furnish as Submitted" or "Furnish as Corrected".
- h. Where errors, deviations, and/or omissions are discovered at a later date in any of the submittals, the Engineer's prior review of the submittals does not relieve the Contractor of the responsibility for correcting all errors, deviations, and/or omissions.

#### 6. Procedure for Review

- a. Submittals shall be transmitted in sufficient time to allow the Engineer at least thirty (30) working days for review and processing.
- b. Contractor shall transmit two (2) prints of each submittal to the Engineer for review for all Drawings greater than 11-inches by 17-inches in size, as well as six (6) copies of all other material. If electronic submittals are used, the Contractor shall transmit two (2) hardcopies of each submittal to the Engineer once the submittal has been reviewed.
- c. Electronic Submittals: If the electronic method of submittals is agreed to by Contractor, Engineer, and Owner, the format and procedures will be determined and implemented prior to any submittals. Submittals will be processed through "Newforma" software. Each item of the submittal documents shall be in .pdf format and shall be oriented so that they are read from upper left corner to lower right corner, with no rotation of said document being required after receiving it. The .pdf file shall be named so that it describes the item being submitted. All other

requirements herein are part of the electronic submittal process with the exception of the duplicate copies. Contractor stamp indicating review and any comments or notes must be on the .pdf submittal.

- d. Submittal shall be accompanied by a letter of transmittal, in duplicate, containing date, project title, Contractor's name, number and titles of submittals, notification of departures and any other pertinent data to facilitate review.
- e. Submittals will be annotated by the Engineer in one of the following ways:
  - "Furnish as Submitted" - no exceptions are taken.
  - "Furnish as Corrected" - minor corrections are noted and shall be made.
  - "Revise and Resubmit" - major corrections are noted and a resubmittal is required.
  - "Rejected" - Based on the information submitted, the submission is not in conformance with the Contract Documents. The deviations from the Contract Documents are too numerous to list and a completely revised submission of the proposed equipment or a submission of other equipment is required.
- f. If a submittal is satisfactory to the Engineer, the Engineer will annotate the submittal "Furnish as Submitted" or "Furnish as Corrected", retain four (4) copies and return remaining copies to the Contractor.
- g. If a resubmittal is required, the Engineer will annotate the submittal "Revise and Resubmit" and transmit five (5) copies to the Contractor for appropriate action.
- h. Contractor shall revise and resubmit submittals as required by the Engineer until submittals are acceptable to the Engineer. It is understood by the Contractor that Owner may charge the Contractor the Engineer's charges for review in the event a submittal is not approved (either "Furnish as Submitted" or "Furnish as Corrected") by the third submittal for a system or piece of equipment. These charges shall be for all costs associated with engineering review, meetings with the Contractor or manufacturer, etc., commencing with the fourth submittal of a system or type of equipment submitted for a particular Specification Section.
- i. Acceptance of a Working Drawing by the Engineer will constitute acceptance of the subject matter for which the Drawing was submitted and not for any other structure, material, equipment or appurtenances indicated or shown.

#### 7. Engineer's Review

- a. Engineer's review of the Contractor's submittals shall in no way relieve the Contractor of any of his responsibilities under the Contract. An acceptance of a submittal shall be interpreted to mean that the Engineer has no specific objections to the submitted material, subject to conformance with the Contract Drawings and Specifications. The Engineer will denote any notes in red ink so as to record his comments.
- b. Engineer's review will be confined to general arrangement and compliance with the Contract Drawings and Specifications only, and will not be for the purpose of checking dimensions, weights, clearances, fittings, tolerances, interferences, coordination of trades, etc.

#### 8. Record Working Drawings

- a. Prior to final payment, the Contractor shall furnish the Engineer one complete set of all accepted Working Drawings, including Shop Drawings, for equipment, piping,



electrical work, heating system, ventilating system, air conditioning system, instrumentation system, plumbing system, structural, interconnection wiring diagrams, etc.

- b. Manufacturer's publications, submitted in lieu of prepared Shop Drawings, will not be required in reproducible form. However, three (3) sets of such material shall be furnished by the Contractor to the Engineer.
- c. Working Drawings furnished shall be corrected to include any departures from previously accepted Drawings.

**D. Construction Photographs**

- 1. The General Contractor shall take photographs at the locations and at such stages of the construction as directed by the Engineer. Digital format shall be used. Provide all pictures for a given period on a CD or DVD.
- 2. Provide the equivalent of 36 different exposures per month for the duration of the Contract time. When directed by the Engineer, frequency of photographs may be increased to weekly sessions provided that the equivalent number of exposures is not exceeded. Engineer may waive requirements for photographs during inactive construction periods in favor of increased photographs during active construction sequences.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01320 - PROGRESS SCHEDULES**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF REQUIREMENTS**

**A. Scheduling Responsibilities:**

1. In order to provide a definitive basis for determining job progress, a construction schedule of a type approved by the Owner will be used to monitor the project.
2. Each week the Contractor shall be responsible for preparing the schedule and updating it based on a tentative two week basis. It shall at all times remain the Contractor's responsibility to schedule and direct his forces in a manner that will allow for the completion of the work within the contractual period.

**B. Construction Hours: see Section 01010 – Summary of Work – for construction working hours requirements.**

**C. Progress of the Work:**

1. The work shall be started within ten (10) days following the Notice to Proceed and shall be executed with such progress as may be required to prevent delay to other Contractors or to the general completion of the project. The work shall be executed at such times and in or on such parts of the project, and with such forces, material and equipment, to assure completion of the work in the time established by the Contract.
2. The Contractor agrees that whenever it becomes apparent from the current monthly schedule update that delays have resulted and, hence, that the Contract completion date will not be met or when so directed by the Owner, he will take some or all of the following actions at no additional cost to the Owner:
  - a. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of work.
  - b. Increase the number of working hours per shift, shifts per working day or days per week, the amount of construction equipment, or any combination of the foregoing to substantially eliminate the backlog of work.
  - c. Reschedule activities to achieve maximum practical concurrency of accomplishment of activities, and comply with the revised schedule.
  - d. The Contractor shall submit to the Owner or the Owner's representative for review a written statement of the steps he intends to take to remove or arrest the delay to the critical path in the accepted schedule.

#### **1.02 CONSTRUCTION SCHEDULE**

- A. Within ten (10) calendar days of the Notice to Proceed, the Contractor shall submit to the Engineer five (5) copies of his proposed schedule. The schedule will be the subject of a schedule review meeting with the Contractor, the Engineer and the Owner or the Owner's representative within one (1) week of its submission. The Contractor will revise and resubmit the schedule until it is acceptable and accepted by the Owner or the Owner's representative.**

### **1.03 CONTRACT COMPLETION TIME**

#### **A. Causes for Extensions:**

The Contract completion time will be adjusted only for causes specified in this Contract. In the event the Contractor requests an extension of any Contract completion date, he shall furnish such justification and supporting evidence as the Owner or the Owner's representative may deem necessary for a determination as to whether the Contractor is entitled to an extension of time under the provisions of this Contract. The Owner, with the assistance of the Engineer, will, after receipt of such justification and supporting evidence, make findings of fact and will advise the Contractor in writing thereof.

#### **B. Requests for Time Extension:**

Each request for change in any Contract completion date shall be initially submitted to the Owner within the time frame stated in the General Conditions. All information known to the Contractor at that time concerning the nature and extent of the delay shall be transmitted to the Owner at that time. Within the time frame stated in the General Conditions but before the date of final payment under this Contract, all information as required above concerning the delay must be submitted to the Owner. No time extension will be granted for requests which are not submitted within the foregoing time limits.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01400 - QUALITY CONTROL**

### **PART 1 - GENERAL**

#### **1.01 THE REQUIREMENT**

##### **A. Testing Laboratory Services**

1. Laboratory testing and checking required by the Specifications, including the cost of transporting all samples and test specimens, shall be provided and paid for by the Owner unless otherwise indicated in the Specifications.
2. Materials to be tested include, but are not necessarily limited to the following: cement, concrete aggregate, concrete, and reinforcing steel.
3. Tests required by the Owner shall not relieve the Contractor from the responsibility of supplying test results and certificates from manufacturers or suppliers to demonstrate conformance with the Specifications.
4. In place testing of compacted materials will be conducted as specified or recommended by Engineer.
5. Procedure
  - a. The Contractor shall plan and conduct his operations to permit taking of field samples and test specimens, as required, and to allow adequate time for laboratory tests.
  - b. The collection, field preparation and storage of field samples and test specimens shall be as directed by the Engineer with the cooperation of the Contractor.
6. Significance of Tests
  - a. Test results shall be binding on both the Contractor and the Owner, and shall be considered irrefutable evidence of compliance or noncompliance with the Specification requirements, unless supplementary testing shall prove, to the satisfaction of the Owner, that the initial samples were not representative of actual conditions.
7. Supplementary and Other Testing
  - a. Nothing shall restrict the Contractor from conducting tests he may require. Should the Contractor at any time request the Owner to consider such test results, the test reports shall be certified by an independent testing laboratory acceptable to the Owner. Testing of this nature shall be conducted at the Contractor's expense.

#### **1.02 IMPERFECT WORK OR MATERIALS**

- A. Any defective or imperfect work or materials furnished by the Contractor which is discovered before the final acceptance of the work, as established by the Certificate of Substantial Completion, or during the subsequent guarantee period, shall be removed immediately even though it may have been overlooked by the Engineer and estimated for payment. Any materials condemned or rejected by the Engineer shall be tagged as such and shall be immediately removed from the site. Satisfactory work or materials shall be substituted for that rejected.

- B. The Engineer may order tests of imperfect or damaged work or materials to determine the required functional capability for possible acceptance, if there is no other reason for rejection. The cost of such tests shall be borne by the Contractor; and the nature, tester, extent and supervision of the tests will be as determined by the Engineer. If the results of the tests indicate that the required functional capability of the work or material was not impaired, consistent with the final general appearance of same, the work or materials may be deemed acceptable. If the results of such tests reveal that the required functional capability of the questionable work or materials has been impaired, then such work or materials shall be deemed imperfect and shall be replaced. The Contractor may elect to replace the imperfect work or material in lieu of performing the tests.

### **1.03 INSPECTION AND TESTS**

- A. The Contractor shall allow the Engineer ample time and opportunity for testing materials to be used in the work. He shall advise the Engineer promptly upon placing orders for material so that arrangements may be made, if desired, for inspection before shipment from the place of manufacture. The Contractor shall at all times furnish the Engineer and his representatives, facilities including labor, and allow proper time for inspecting and testing materials and workmanship. The Contractor must anticipate possible delays that may be caused in the execution of his work due to the necessity of materials being inspected and accepted for use. The Contractor shall furnish, at his own expense, all samples of materials required by the Engineer for testing, and shall make his own arrangements for providing water, electric power, or fuel for the various inspections and tests of structures and material.
- B. Where other tests or analyses are specifically required in other Sections of these Specifications, the cost thereof shall be borne by the party (Owner or Contractor) so designated in such Sections. The Owner will bear the cost of all tests, inspections, or investigations undertaken by the order of the Engineer for the purpose of determining conformance with the Contract Documents if such tests, inspection, or investigations are not specifically required by the Contract Documents, and if conformance is ascertained thereby. Whenever nonconformance is determined by the Engineer as a result of such tests, inspections, or investigations, the Contractor shall bear the full cost thereof or shall reimburse the Owner for said cost. In this connection, the cost of any additional tests and investigations, which are ordered by the Engineer to ascertain subsequent conformance with the Contract Documents, shall be borne by the Contractor.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01510 - TEMPORARY UTILITIES**

### **PART 1 - GENERAL**

#### **1.01 THE REQUIREMENT**

A. The General Contractor shall provide temporary sanitary facilities for the construction operations of this Contract. The temporary services shall be provided for use throughout the construction period.

B. Temporary Sanitary Service

Sanitary conveniences, in sufficient numbers, for the use of all persons employed on the work and properly screened from public observation, shall be provided and maintained at suitable locations by the General Contractor, all as prescribed by State Labor Regulations and local ordinances. The contents of same shall be removed and disposed of in a manner consistent with local and state regulations, as the occasion requires. Sanitary facilities shall be removed from the site when no longer required.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## SECTION 01520 - MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION

### PART 1 - GENERAL

#### 1.01 THE REQUIREMENT

- A. The sanitary sewer system shall be maintained in continuous operation during the entire construction period of all Contracts as hereinafter specified. The intent of this section is to outline the minimum requirements necessary to provide continuous transference of wastewater throughout the construction period.
- B. Work under each Contract shall be scheduled and conducted by each Contractor so as to not reduce the quality of near-by water streams or cause odor or other nuisance except as explicitly permitted hereinafter. In performing the work shown and specified, the Contractor shall plan and schedule his work to meet the plant and collection system operating requirements, and the constraints and construction requirements as outlined in this Section. No discharge of raw or inadequately treated wastewater shall be allowed. The Contractor shall pay all civil penalties, costs, and assessments associated with any discharge of raw or inadequately treated wastewater associated with the Contractor's work.
- C. The General Contractor shall be responsible for coordinating the general construction and for ensuring that permanent or temporary power is available for all existing, proposed, and temporary facilities that are required to be on line at any given time.
- D. The Contractor has the option of providing additional temporary facilities that can eliminate a constraint, provided it is done without cost to the Owner and provided that all requirements of these Specifications are fulfilled and approved by the Engineer.

#### 1.02 TEMPORARY BYPASS PUMPING

- A. Requirements for this section shall apply to all pumping required for Contractor to perform tie-ins, shutdowns, etc. for construction of the work. Temporary bypass pumping shall be performed in accordance with this section unless noted otherwise herein. Temporary pumping system design calculations and equipment information shall be submitted for review by Engineer per Section 01300. Calculations shall be stamped by a professional engineer registered in the Commonwealth of Kentucky.
- B. Contractor shall furnish, install, maintain, and operate temporary bypass pumping facilities as required to complete the Work. Contractor shall be responsible for all construction necessary to accommodate pumps and piping including but not limited to structure modifications, pump base construction, pipe supports, etc.
- C. The Contractor shall perform a test run of the bypass pumping set-up before being allowed to continue with the full scale bypass pumping.
- D. Contractor shall design the temporary bypass pumping facilities to convey flows from the upstream manholes where existing manhole or sewer tie-ins, replacement, or modifications will be conducted in a manner that will prevent backup of the existing system.
- E. All tie-ins, replacement, or modifications shall be performed during low flow conditions.
- F. All tie-ins, replacement, or modifications Work shall be accomplished as quickly as possible. If Work required extends beyond 8-hours or weather causes higher flows in the existing system during the Work, the new Work shall be stopped and the existing system shall be placed back into service. The new Work shall be properly protected from damage. Any damage to the new Work or damage to surrounding areas caused by the new Work shall be

repaired or replaced at the Owner's decision by the Contractor at the Contractor's sole expense.

- G. Contractor shall provide all power, fuel, maintenance materials, parts, and other expendables in order to maintain temporary pumping through the duration of the Work.
- H. Contractor shall provide one standby pump equal in capacity to the largest pump installed. If temporary pumping requires non-identical pumps in series, a standby pump of each type shall be provided. Temporary control system shall start standby pump on high level and dial-out to local contact who will respond and be on-site within an hour to check and address problem. High-high level shall also alarm and dial-out indicating that standby pump is not maintaining level. Temporary pumping system shall be provided by company that has spare pumps ready to be delivered and installed locally if problems occur.
- I. Contractor shall provide standby power or 48-hour on-site fuel storage capacity for diesel engine type pumps to ensure continuous operation at all times.
- J. Contractor shall provide sound attenuation for temporary pumping facilities to limit noise levels to no more than 85 dBA at a distance of 21 feet from the noise source.
- K. Temporary pumping system shall remain fully operational until all modifications are complete and approved by Owner or Engineer.
- L. Following successful completion of the new Work, Contractor shall remove all temporary pumps, piping and appurtenances and restore area and/or structures to original condition prior to start of work.
- M. Contractor shall prepare Temporary Bypass Plan and submit to Owner and Engineer at pre-construction conference for review and approval.
- N. Contractor shall reconnect to existing gravity sewer at the end of each day, weather delay, or completion of Work so that bypass pumping does not occur when not on jobsite. Overnight bypass pumping will only be allowed when directed by Engineer and Owner.
- J. Bypass pumping of 8-in and smaller pipes shall be incidental to the Contract. All bypass pumping using a 4-in or smaller pump or combination of those pumps shall be incidental to the Contract.

For bypass pumping requiring a pump or combination of pumps larger than 4-in, the Contractor shall submit a bypass pumping plan that at a minimum details the following:

- The number, size and capacities of the pumps to be used
- Firm capacity of the pumping scheme
- The size and length of the discharge piping
- The suction and discharge head calculations
- The layout of the pumps including suction and discharge locations
- Traffic plans for any roadway, parking lot, or driveway crossing
- Creek crossing plans and locations for all creek crossings

The Contractor is advised that any discharge of sewage to the water of Kentucky resulting from the bypass pumping operations is a violation of federal and state regulations and the Contractor will be held accountable for such discharge unless the discharge is the result of a wet weather event greater than the 2-yr, 24hr storm.

The Contractor is responsible for providing bypass pumping of sewage in accordance with Section 01520 of the Contract Documents to insure that no bypass or overflow of sanitary sewage occurs. The Contractor shall notify Engineer, Owner, and DOW a minimum of 10 days prior to initiation of bypass pumping. The Contractor is required to notify the Owner of any planned or scheduled bypass pumping during construction progress meetings.



**DOW Contact:**

Deborah Singleton  
Environmental Inspector III  
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[Deborah.singleton@ky.gov](mailto:Deborah.singleton@ky.gov)

Firm capacity of 8.3 MGD is the maximum capacity required to convey 2-yr, 24 hr storm flows based on LFUCG hydraulic modeling.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01530 - PROTECTION OF EXISTING FACILITIES**

### **PART 1 - GENERAL**

#### **1.01 THE REQUIREMENT**

- A. Contractor shall be responsible for the preservation and protection of property adjacent to the work site against damage or injury as a result of his operations under this Contract. Any damage or injury occurring on account of any act, omission or neglect on the part of the Contractor shall be restored in a proper and satisfactory manner or replaced by and at the expense of the Contractor to an equal or superior condition than previously existed.
- B. Contractor shall comply promptly with such safety regulations as may be prescribed by the Owner or the local authorities having jurisdiction and shall, when so directed, properly correct any unsafe conditions created by, or unsafe practices on the part of, his employees. In the event of the Contractor's failure to comply, the Owner may take the necessary measures to correct the conditions or practices complained of, and all costs thereof will be deducted from any monies due the Contractor. Failure of the Engineer to direct the correction of unsafe conditions or practices shall not relieve the Contractor of his responsibility hereunder.
- C. In the event of any claims for damage or alleged damage to property as a result of work under this Contract, the Contractor shall be responsible for all costs in connection with the settlement of or defense against such claims. Prior to commencement of work in the vicinity of property adjacent to the work site, the Contractor, at his own expense, shall take such surveys as may be necessary to establish the existing condition of the property. Before final payment can be made, the Contractor shall furnish satisfactory evidence that all claims for damage have been legally settled or sufficient funds to cover such claims have been placed in escrow, or that an adequate bond to cover such claims has been obtained.

#### **1.02 PROTECTION OF WORK AND MATERIAL**

- A. During the progress of the work and up to the date of final payment, the Contractor shall be solely responsible for the care and protection of all work and materials covered by the Contract.
- B. All work and materials shall be protected against damage, injury or loss from any cause whatsoever, and the Contractor shall make good any such damage or loss at his own expense. Protection measures shall be subject to the approval of the Engineer.

#### **1.03 EXISTING UTILITIES AND APPURTENANT STRUCTURES**

- A. The term existing utilities shall be deemed to refer to both publicly-owned and privately-owned utilities such as electric power and lighting, telephone, water, gas, storm drains, sanitary sewers and all appurtenant structures.
- B. Where existing utilities and structures are indicated on the Drawings, it shall be understood that all of the existing utilities and structures affecting the work may not be shown and that the locations of those shown are approximate only. It shall be the responsibility of the Contractor to ascertain the actual extent and exact location of existing utilities and structures. In every instance, the Contractor shall notify the proper authority having jurisdiction and obtain all necessary directions and approvals before performing any work in the vicinity of existing utilities.
- C. Prior to beginning any excavation work, the Contractor shall, through field investigations, determine any conflicts or interferences between existing utilities and new utilities to be constructed under this project. This determination shall be based on the actual locations,

elevations, slopes, etc., of existing utilities as determined in the field investigations, and locations, elevation, slope, or other information of new utilities as shown on the Drawings. If an interference exists, the Contractor shall bring it to the attention of the Engineer as soon as possible. If the Engineer agrees that an interference exists, he shall develop a plan to address the interference as required, and obtain the Owner's approval. Additional costs to the Contractor for this change shall be processed through a Change Order as detailed elsewhere in these Contract Documents. In the event the Contractor fails to bring a potential conflict or interference to the attention of the Engineer prior to beginning excavation work, any actual conflict or interference which does arise during the Project shall be corrected by the Contractor, as directed by the Engineer, at no additional expense to the Owner.

- D. The work shall be carried out in a manner to prevent disruption of existing services and to avoid damage to the existing utilities. Temporary connections shall be provided, as required, to insure uninterrupted of existing services. Any damage resulting from the work of this Contract shall be promptly repaired by the Contractor at his own expense in a manner approved by the Engineer and further subject to the requirements of any authority having jurisdiction. Where it is required by the authority having jurisdiction that they perform their own repairs or have them done by others, the Contractor shall be responsible for all costs thereof.
- E. Where excavations by the Contractor require any utility lines or appurtenant structures to be temporarily supported and otherwise protected during the construction work, such support and protection shall be provided by the Contractor. All such work shall be performed in a manner satisfactory to the Engineer and the respective authority having jurisdiction over such work. In the event the Contractor fails to provide proper support or protection to any existing utility, the Engineer may, at his discretion, have the respective authority to provide such support or protection as may be necessary to insure the safety of such utility, and the costs of such measures shall be paid by the Contractor. This is not a pay item.

#### **1.04 DOCUMENTATION OF EXISTING STRUCTURES**

- A. The term existing structures shall be deemed to refer to both publicly-owned and privately-owned buildings, structures, and other facilities on the ground surface and any foundations or extensions below the ground surface.
- B. Prior to beginning any excavation work in close proximity to existing structures, the Contractor shall complete a Pre-Construction Survey to assess the condition of existing structures surrounding the work site. The survey must be performed a maximum of 7 days prior to excavation and submitted to the Engineer.
- C. Documentation for the Pre-Construction Survey shall be provided as photographs, videos, and report forms to document each structure. Prior to the Pre-Construction Survey, the construction limits must be flagged. Take photographs and video to show existing conditions adjacent to property and to show existing buildings either on or adjoining property to accurately record physical conditions. Include video and photographs of the visible foundation and wall of the buildings, both inside and outside of each structure. Any existing deformities or cracks must be clearly documented in the video and photographs, and shall be documented from different vantage points.
- E. All photographs and videos shall be digital and provided on a flash drive or removable hard drive. Digital photographs and videos shall be time and date stamped. See Section 01010 for additional video requirements.

#### **PART 2 – PRODUCTS (NOT USED)**

#### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01531 – TREE AND PLANT PROTECTION**

### **PART 1 - GENERAL**

#### **1.01 THE REQUIREMENT**

- A. The Contractor shall be responsible for the protection of existing trees, shrubs, and plants on or adjacent to the work site that are shown or designated to remain in place by the Owner against unnecessary cutting, breaking, or skinning of trunk, branches, bark, or roots. Any damaged trees and plants that die or suffer permanent injury on account of any act, omission, or neglect on the part of the Contractor shall be removed when ordered by the Engineer and replaced by a specimen of equal or better quality at the expense of the Contractor.

#### **1.02 PROTECTION OF TREES AND PLANTS**

- A. The term DBH (Diameter at Breast Height) shall be deemed to refer to the total cross sectional diameter in inches of a tree measured at a height of four and one-half (4 ½) feet.
- B. The term Tree Protection Area (TPA) shall be deemed to refer to the circular area surrounding a tree of which the center is the center of the bole of the tree and the radial measurement is one (1) foot per inch up to twenty-four (24) inches DBH and 1.5 feet per inch DBH or trees over twenty-four (24) inches DBH or a lesser distance provided it will not adversely affect the health of protected tree(s).
- C. All areas designated for existing tree preservation by the Engineer shall be protected during construction activity. The TPA shall be surrounded by fencing at least three (3) feet tall and clearly visible, with signage every one hundred (100) feet clearly identifying the TPA.
- D. No vehicles, construction materials, equipment, fuel, or temporary or permanent earth fill shall be placed within a TPA. There shall not be any movement of any vehicles into nor within a TPA. No nails, rope, cable, signs, or fencing is to be attached to a tree within a TPA.
- E. Fires shall not be permitted under or adjacent to trees and plants.
- F. The Contractor shall cover all exposed roots with burlap or mulch that shall be kept continuously wet. All exposed roots shall be covered with earth as soon as possible. The Contractor shall protect root systems from mechanical damage and damage by erosion, flooding, run-off or noxious materials in solution.
- G. If branches or trunks are damaged, it is the responsibility of the Contractor to prune branches immediately and protect the cut or damaged areas with emulsified asphalt compounded specifically for horticultural use in a manner approved by the Engineer.

### **PART 2 – PRODUCT (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01540 - DEMOLITION AND REMOVAL OF EXISTING STRUCTURES AND EQUIPMENT**

### **PART 1 - GENERAL**

#### **1.01 THE REQUIREMENT**

- A. This Section covers the demolition, removal, and disposal of structures, pavement, curbs, sidewalk, and any existing equipment. The Contractor shall furnish all labor, materials and equipment to demolish and remove structures and equipment designated to be removed on Drawings.

#### **1.02 TITLE TO EQUIPMENT AND MATERIALS**

- A. Contractor shall have no right or title to any of the equipment, materials or other items to be removed from the existing structures unless authorized by Owner.

#### **1.03 CONDITION OF STRUCTURES AND EQUIPMENT**

- A. The Owner does not assume responsibility for the actual condition of structures and equipment to be demolished and removed.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION**

#### **3.01 DEMOLITION AND REMOVALS**

- A. The removal of all equipment and piping, and all materials from the demolition of structures shall, when released by the Owner and Engineer, be done by the Contractor and become the Contractor's property, unless otherwise noted, for disposition in any manner not contrary to the Contract requirements and shall be removed from the site to the Contractor's own place of disposal.
- B. Any equipment piping and appurtenances removed without proper authorization, which are necessary for the operation of the existing facilities shall be replaced to the satisfaction of the Engineer at no cost to the Owner.
- C. Excavation caused by demolitions shall be backfilled with fill free from rubbish and debris.
- D. All materials removed by demolition or excavation shall be lawfully and properly handled and disposed according to applicable local, state, and federal laws. Where materials shall be disposed at landfill, manifests and documentation shall be provided to Owner showing / documenting that materials have been properly handled and disposed.
- E. Manhole frames and covers that have been removed shall become the property of the Contractor and shall be disposed on in a legal manner.

END OF SECTION

## SECTION 01550 - SITE ACCESS AND STORAGE

### PART 1 - GENERAL

#### 1.01 THE REQUIREMENT

##### A. Access Roads

1. The General Contractor shall construct and maintain such temporary access roads as required to perform the work of this Contract.
2. Access roads shall be located within the property lines of the Owner unless the Contractor independently secures easements for his use and convenience. Contractor shall submit written documentation to the Engineer for any Contractor secured easements across privately held property. Easement agreement shall specify terms and conditions of use and provisions for site restoration. A written release from the property owner certifying that all terms of the easement agreement have been complied by the Contractor shall be furnished to the Engineer prior to final payment.
3. Existing access roads used by the Contractor shall be suitably maintained by the Contractor at his expense during construction. Contractor shall not be permitted to restrict Owner access to existing facilities. Engineer may direct Contractor to perform maintenance of existing access roads when Engineer determines that such work is required to insure all weather access by the Owner.
4. The Contractor will maintain the primary roads to be free of mud and dirt. All mud and dirt carried from the access roads to the primary roads shall be washed and cleaned.
5. The Contractor shall obtain and pay all cost associated with any bonds required by the Kentucky Department of Transportation for the use of State maintained roads.

##### B. Parking Areas

1. Each Contractor shall construct and maintain suitable parking areas for his construction personnel on the project site where approved by the Engineer and the Owner.

##### C. Restoration

1. At the completion of the Work, the surfaces of land used for access roads and parking areas shall be restored by the Contractor to its original condition and to the satisfaction of the Engineer.

##### D. Traffic Regulations

1. Contractor shall obey all traffic laws and comply with all the requirements, rules and regulations of the Kentucky Transportation Cabinet, LFUCG, and other local authorities having jurisdiction to maintain adequate warning signs, lights, barriers, etc., for the protection of traffic on public roadways.

##### E. Storage of Equipment and Materials

1. Contractor shall store his equipment and materials at the job site in accordance with the requirements of the Contract Documents, and as hereinafter specified. All equipment and materials shall be stored in accordance with manufacturer's recommendations and as directed by the Owner or Engineer, and in conformity to applicable statutes, ordinances, regulations and rulings of the public authority having jurisdiction.

2. Contractor shall secure a site for staging area and material storage, including portable restroom facilities. Contractor shall not store materials or encroach upon private property without the written consent of the owners of such private property. Use of public lands must be with the written approval of the Owner.
3. Contractor shall not store unnecessary materials or equipment on the job site, and shall take care to prevent any structure from being loaded with a weight which will endanger its security or the safety of persons.
4. Materials shall not be placed within ten (10) feet of fire hydrants. Gutters, drainage channels and inlets shall be kept unobstructed at all times.
5. Contractor shall provide adequate temporary storage buildings/facilities, if required, to protect materials or equipment on the job site.
6. Contractor shall provide Engineer with copy of agreement with property owner of staging area. Contractor will be responsible for all restoration. Agreement between Contractor and property owner shall include language holding the Owner harmless from responsibility and liability.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## SECTION 01560 - TEMPORARY ENVIRONMENTAL CONTROLS

### PART 1 - GENERAL

#### 1.01 GENERAL

- A. Provide and maintain equipment and temporary construction, as necessary to provide controls over environmental and safety conditions at the construction site and adjacent areas. Remove physical evidence of temporary facilities at completion of Work.
- B. Prohibited Construction Activities:
1. Disposing of excess or unsuitable excavated material in wetlands or floodplains, even with the permission of the property owner.
  2. Locating stockpile storage areas in environmentally sensitive areas.
  3. Indiscriminate, arbitrary, or capricious operation of equipment in any stream corridors, any wetlands, any surface waters, or outside the construction limits.
  4. Pumping of sediment-laden water from trenches or other excavations directly into any surface waters, any stream corridors, any wetlands, or storm sewers; all such water will be properly filtered or settled to remove silt prior to release.
  5. Discharging pollutants such as chemicals, fuels, lubricants, bituminous materials, raw sewage and other harmful waste into or alongside of rivers, streams, impoundments, or into natural or manmade channels leading thereto.
  6. Permanent or unspecified alteration of the flow line of any stream.
  7. Damaging vegetation outside of the construction area.
  8. Disposal of trees, brush, and other debris in any stream corridors, any wetlands, any surface waters, or at unspecified locations.
  9. Open burning of project debris without a permit.
  10. Discharging injurious silica dust concentrations into the atmosphere resulting from breaking, cutting, chipping, drilling, buffing, grinding, polishing, shaping or surfacing closer than 200 feet to places of residences or commercial, professional, quasi-public or public places of human occupation.
  11. Storing construction equipment and vehicles and/or stockpiling construction materials on property, public or private, not previously authorized for such purposes as noted in Section 01550.
  12. Running well point or pump discharge lines through private property or public property and rights-of-way without an easement or the written permission of the property owner and the consent of the ENGINEER.
  13. Non-compliance with the Contractor's, OSHA's, or the Owner's safety requirements.
  14. Operations entailing the use of vibratory hammers or compactors outside the hours listed in Section 01010 - Summary of Work, or outside the hours allowed for construction by local ordinances or regulations.



## **1.02 SAFETY ADVISORY**

- A. Scope: Sewer Installation
  - 1. Maintaining jobsite safety
  - 2. Maintaining traffic safety
- B. LFUCG-funded projects have a contractual and legal obligation for performance and breach of contract in regard to the safety of all exposed personnel. Reference the Occupational Safety Health Administration (OSHA) Multi Employer Citation Policy: Multi-employer Worksites, The Creating Employer, The Exposing Employer, The Correcting Employer, The Controlling Employer, Multiple Roles.
- C. The Contractor shall at all times conduct the work safely in order to assure a safe work site. The Contractor shall be responsible for the safety of the Contractor's employees, agents and subcontractors, Owner's personnel and all other personnel or persons at the work site. The Contractor shall be responsible for the adequacy and safety of all construction methods or procedures and the safe prosecution of the work.
- D. The Contractor shall be responsible at all times to conduct the work and keep the work site in compliance with federal, state, and local safety Laws and Regulations, including but not limited to Occupational Safety and Health (OSHA) requirements. This includes shaft drilling operations, concrete moving and placement, confined space entry requirements for trench construction, including use of a trench box or other shoring to support trench walls and proper means of exit from an excavation.
- E. The Contractor shall have an authorized and competent safety representative as defined above on the work site at frequent and regular intervals, or more often, as conditions require. Failure to have such a person at the site as specified herein constitutes an unsafe practice.
- F. The Contractor shall be responsible to suspend Work whenever a Work method or procedure or condition at work site is unsafe.
- G. The Contractor shall submit a written notification to the Owner of any accident or injury. Such notification shall include the Contractor's investigation and what measures are appropriate to avoid such accidents. Payment applications will not be authorized until such notice is provided.
- H. Failure of the Contractor to comply with any provision of this Specification section or the Owner's safety requirements or any federal, state or local safety Laws and Regulations constitute just cause for the Owner to order suspension of Work.
- I. None of the provisions of the section are intended to, nor shall be construed to, create any duty or responsibility on the Owner or Engineer to provide or enforce safety requirements of the Contractor. The duty, responsibility, and liability for safety shall remain with the Contractor.

## **1.03 AIR POLLUTION AND NOISE CONTROL**

- A. Contractor's vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards and in no case will noise levels be permitted which interfere with the work of the Owner or others.
  - 1. Construction activities will be limited to hours specified in Section 01010 – Summary of Work.
  - 2. Construction equipment will be provided with intake silencers and mufflers, as required by safety standards.

3. All construction vehicles should be equipped with proper emissions control equipment.
4. Periodically check equipment and machinery for proper tuning to minimize exhaust emissions and noise.

#### **1.04 DUST CONTROL**

- A. Contractor shall be responsible for controlling objectionable dust caused by his operation of vehicles and equipment, clearing or for any reason whatever. Contractor shall apply water or use other methods subject to the Engineer's approval which will keep dust in the air to a minimum. Dust control measures shall be implemented multiple times throughout each working day if necessary.

#### **1.05 PEST AND RODENT CONTROL**

- A. Provide rodent and pest control as necessary to prevent infestation of construction or storage area.
  1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

#### **1.06 WATER CONTROL**

- A. Contractor shall comply with the Storm Water Pollution Prevention Plan (SWPPP) approved by LFUCG.
- B. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the site, or adjoining properties.
- C. Provide, operate and maintain equipment and facilities of adequate size to control surface water.
- D. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas and in conformance with all environmental requirements.

#### **1.07 POLLUTION CONTROL**

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids.
  1. Excavate and dispose of any contaminated earth offsite, and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
  1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.

1. Prevent toxic concentrations of chemicals.
  2. Prevent harmful dispersal of pollutants into the atmosphere.
- E. All Contractor's equipment used during construction shall conform to all current federal, state and local laws and regulations.

**1.08 EROSION AND SEDIMENT CONTROL**

- A. See Section 02372 for erosion and sediment control requirements.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01580 – PROJECT IDENTIFICATION AND SIGNS**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. The Contractor shall provide signs near the site of the Work. The sign shall set forth the description of the Work and the names of the Owner, Engineer, and Contractor.

### **PART 2 - PRODUCTS**

#### **2.01 IDENTIFICATION SIGN**

- A. Basic design shall be as shown in the sample on page 01580-2 below, and shall include at a minimum the names of the Project, the Owner, the Contractor, and the Engineer. This sign shall be 3' x 6' and provided and installed by the Contractor.
- B. "Working Hard" sign (as shown on page 01580-3) shall be provided by the Owner and mounted and installed by the Contractor. Contractor shall provide posts and backing.
- C. Colors shall be as selected by the Engineer.
- D. Number Required: One (1).

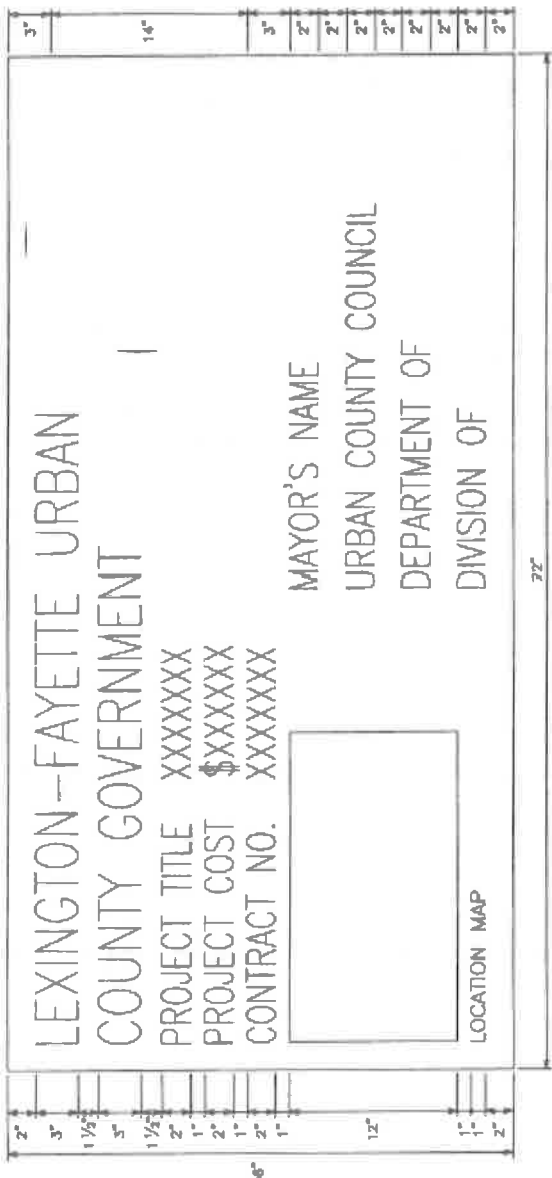
### **PART 3 - EXECUTION**

#### **3.01 INSTALLATIONS**

- A. Signs shall be installed at locations specified by the Engineer and installed in accordance with the detail below.

#### **3.02 MAINTENANCE**

- A. The signs shall be maintained in good condition until the completion of the Project and then removed by the Contractor.



**NOTES:**

THIS SIGN SHALL BE:

1. FURNISHED AND ERECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, IN ADDITION TO THE NORMAL WARNING AND REGULATORY SIGNS.
2. OF GOOD QUALITY EXTERIOR PLYWOOD OR OTHER APPROVED MATERIAL.
3. PAINTED WITH SOLID BLUE LETTERS ON A WHITE BACKGROUND.
4. UPDATED AS NEEDED TO INDICATE THE APPROPRIATE MAYOR'S NAME.
5. FRAMED AND BRACED SO AS TO REMAIN VERTICAL AND PLAINLY VISIBLE TO THE TRAVELING PUBLIC.
6. ERECTED PRIOR TO STARTING CONSTRUCTION WORK.
7. ERECTED AT EACH END OF THE PROJECT AT LOCATIONS DIRECTED BY THE ENGINEER AND AT OTHER LOCATIONS SPECIFIED ON THE PLANS OR IN THE PROPOSAL.
8. KEPT CLEAN AND IN GOOD CONDITION FOR THE DURATION OF THE CONSTRUCTION AS DIRECTED BY THE ENGINEER.
9. THE COST SHOWN APPLIES ONLY TO THE PORTION OF PROJECT UNDER CONSTRUCTION IN A CONTIGUOUS SECTION. IN THE EVENT THE PROJECT CONSISTS OF MORE THAN ONE CONTIGUOUS SECTION THE COST SHOWN SHALL BE FOR THE PARTICULAR SECTION WHERE WORK IS IN PROGRESS.
10. NOT TO BE USED ON FEDERAL AID TRANSPORTATION PROJECTS

NO.	DATE	REVISION DESCRIPTION	BY
DIVISION OF ENGINEERING			
PUBLIC IMPROVEMENT SIGN			
ENGINEER NUMBER NO.	313	SCALE	AS SHOWN
CHECKED BY		DATE	
APPROVED BY		DATE	



lexingtonky.gov

# WORKING HARD TO IMPROVE YOUR NEIGHBORHOOD

Your Sanitary Sewer Fees Are Making Lexington A Better Place To Live

END OF SECTION

## SECTION 01631 - PRODUCTS AND SUBSTITUTIONS

### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF REQUIREMENTS

- A. General: Substitution of materials and/or equipment is defined in the General Conditions and more fully hereinafter.
- B. Substitutions: The Contractor's requests for changes in the products, materials, equipment and methods of construction required by the Contract Documents are considered requests for "substitutions", and are subject to the requirements specified herein. The following are not considered as substitutions:
  - 1. Revisions to the Contract Documents, where requested by the Owner and Engineer are considered as "changes" not substitutions.
  - 2. Substitutions requested during the bidding period, which have been accepted prior to the Contract Date, are included in the Contract Documents and are not subject to the requirements for substitutions as herein specified.
  - 3. Specified Contractor options on products and construction methods included in the Contract Documents are choices available to the Contractor and are not subject to the requirements for substitutions as herein specified.
  - 4. Except as otherwise provided in the Contract Documents, the Contractor's determination of and compliance with governing regulations and orders as issued by governing authorities do not constitute "substitutions" and do not constitute a basis for change orders.

#### 1.02 SUBMITTALS

- A. The information required to be furnished for evaluation of product substitution will be as follows:
  - 1. Performance capabilities, and materials and construction details will be evaluated based upon conformance with the Specifications. Products that do not conform with the Specification shall not be accepted.
  - 2. Manufacturer's production and service capabilities, and evidence of proven reliability will be acceptable if the following is furnished.
    - a. Written evidence that the manufacturer has not less than (3) years' experience in the design and manufacture of the substitute product.
    - b. Written evidence of at least one application, of a type and size similar to the proposed substitute product, in successful operation in a wastewater treatment plant or collection system for a period of at least one year.
    - c. In lieu of furnishing evidence of a manufacturer's Experience and successful operation of an application of the product to be substituted, the Contractor has the option of furnishing a cash deposit or bond which will guarantee replacement if the product the furnished does not satisfy the other requirements specified in this section. The amount of each deposit or bond will be subject to the approval.
  - 3. Specific reference to characteristics either superior or inferior to specified requirements will be evaluated based on their net effect on the project. Products with any

characteristics inferior to those specified will not be acceptable unless offset by characteristics that, in the opinion of the Engineer, will cause the overall effect of the product on the project to be at least equal to that of those specified.

### **1.03 QUALITY ASSURANCE**

- A. Source Limitations: To the fullest extent possible, provide products of the same generic kind, from a single source, for each unit of work.
- B. Compatibility of Options: Compatibility of products is a basic requirement of product selection. When the Contractor is given the option of selecting between two or more products for use on the project, the product selected must be compatible with other products previously selected, even if the products previously selected were also Contractor options. The complete compatibility between the various choices available to the Contractor is not assured by the various requirements of the Contract Documents, but must be provided by the Contractor.
- C. The detailed estimate of operating and maintenance costs will be evaluated based on comparison with similar data on the specified products. Proposed substitute products which have an operating and maintenance cost that, in the opinion of the Engineer, exceeds that of the specified products will not be considered equal and will not be acceptable.

### **1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. General: Deliver, store, and handle products in accordance with manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft. Control delivery schedules to minimize long-term storage at the site and to prevent overcrowding of construction spaces. In particular coordinate delivery and installation to ensure minimum holding or storage times for items known or recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other sources of loss.
  - 1. Deliver products to the site in the manufacturer's sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
  - 2. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
  - 3. Store heavy materials away from the project construction in a manner that will not endanger the supporting construction.

## **PART 2 - PRODUCTS**

### **2.01 GENERAL PRODUCT COMPLIANCE**

- A. General: Requirements for individual products are indicated in the Contract Documents; compliance with these requirements is in itself a Contract Requirement. These requirements may be specified in any one of several different specifying methods, or in any combination of these methods. These methods include the following:
  - 1. Proprietary
  - 2. Descriptive
  - 3. Performance
  - 4. Compliance with Reference Standards



Compliance with codes, compliance with graphic details and similar provisions of the Contract Documents also have a bearing on the review and approval outcome.

- B. Procedures for Selecting Products: Contractor's options in selecting products are limited by requirements of the Contract Documents and governing regulations. They are not controlled by industry traditions or procedures experienced by the Contractor on previous construction projects.

## 2.02 SUBSTITUTIONS

- A. Conditions: Contractor's request for substitution will be received and considered when extensive revisions to the Contract Documents are not required, when the proposed changes are in keeping with the general intent of the Contract Documents, when the request is timely, fully documented and properly submitted, and when one or more of the following conditions is satisfied, all as judged by the Engineer; otherwise the requests will be returned without action except to record non-compliance with these requirements.
1. The Engineer will consider a request for substitution where the request is directly related to an "or equal" clause or similar language in the Contract Documents.
  2. The Engineer will consider a request for substitution where the specified product or method cannot be provided within the Contract Time. However, the request will not be considered if the product or method cannot be provided as a result of the Contractor's failure to pursue the work promptly or to coordinate the various activities properly.
  3. The Engineer will consider a request for substitution where the specified product or method cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
  4. The Engineer will consider a request for a substitution where a substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. These additional responsibilities may include such considerations as additional compensation to the Engineer for redesign and evaluation services, the increased cost of other work by the Owner or separate contractors, and similar considerations.
  5. The Engineer will consider a request for substitution when the specified product or method cannot be provided in a manner which is compatible with other materials of the work, and where the Contractor certifies that the substitution will overcome the incompatibility.
  6. The Engineer will consider a request for substitution when the specified product or method cannot be properly coordinated with other materials in the work, and where the Contractor certifies that the proposed substitution can be properly coordinated.
  7. The Engineer will consider a request for substitution when the specified product or method cannot receive a warranty as required by the Contract Documents and where the Contractor certifies that the proposed substitution receive the required warranty.
  8. The Contractor shall reimburse the Owner any costs for review by the Engineer of proposed product substitutions which require major design changes, as determined by the Owner, to related or adjacent work made necessary by the proposed substitutions.
- B. Work-Related Submittals: Contractor's submittal of and the Engineer's acceptance of shop drawings, product data or samples which relate to work not complying with requirements of the Contract Documents, does not constitute an acceptable or valid request for a substitution, nor approval thereof.

## **2.03 GENERAL PRODUCT REQUIREMENTS**

- A. General: Provide products that comply with the requirements of the Contract Documents and that are undamaged and, unless otherwise indicated, unused at the time of installation. Provide products that are complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
1. Standard Products: Where they are available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  2. Continued Availability: Where, because of the nature of its application, the Owner is likely to need replacement parts or additional amounts of a product at a later date, either for maintenance and repair or replacement, provide standard, domestically produced products for which the manufacturer has published assurances that the products and its parts are likely to be available to the Owner at a later date.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION OF PRODUCTS**

- A. General: Except as otherwise indicated in individual sections of these Specifications, comply with the manufacturer's instructions and recommendations for installation of the products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other work. Clean exposed surfaces and protect surfaces as necessary to ensure freedom from damage and deterioration at Time of Acceptance.

END OF SECTION

## **SECTION 01731 - CUTTING AND PATCHING**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. This Section includes procedural requirements for cutting and patching.
- B. The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the work or to make its parts fit together properly.
- C. The Contractor shall not damage or endanger any portion of the Work or the Work of the Owner or any separate contractors by cutting, patching or otherwise altering any work, or by excavation.
- D. Any cutting of existing structures or facilities shall be approved in advance by Owner or Engineer. Approval shall not impact Contractor's full liability for any damage caused.

#### **1.02 QUALITY ASSURANCE**

- A. Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.

#### **1.03 WARRANTY**

- A. Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

### **PART 2 - PRODUCTS**

#### **2.01 MATERIALS**

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials, to the extent practicable.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the functional performance of existing materials.

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

#### **3.02 PREPARATION**

- A. Temporary Support: Provide temporary support of Work to be cut.

- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

### **3.03 PERFORMANCE**

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
  - 5. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
  - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
  - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

END OF SECTION

## **SECTION 01770 - PROJECT CLOSEOUT**

### **PART 1 - GENERAL**

#### **1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE**

- A. Liquidated Damages: Supplemental General Conditions
- B. Cleaning: Section 01740.
- C. Project Record Documents: Section 01785.

#### **1.02 SUBSTANTIAL COMPLETION**

- A. In order to initiate project closeout procedures, the Contractor shall submit the following:
  - 1. Written certification to Engineer that project is Substantially Complete.
  - 2. List of major items to be completed or corrected.
- B. Engineer will make an inspection within seven (7) days after receipt of certification, together with Owner's Representative.
- C. Should Engineer consider that work is Substantially Complete:
  - 1. Contractor shall prepare, and submit to Engineer, a list of items to be completed or corrected, as determined by the inspection.
  - 2. Engineer will prepare and issue a Certificate of Substantial Completion, containing:
    - a. Date of Substantial Completion.
    - b. Contractor's list of items to be completed or corrected, verified and amended by Engineer.
    - c. The time within which Contractor shall complete or correct work of listed items.
    - d. Time and date Owner will assume possession of work or designated portion thereof.
    - e. Responsibilities of Owner and Contractor for:
      - 1) Insurance
      - 2) Utilities
      - 3) Operation of Mechanical, Electrical, and Other Systems.
      - 4) Maintenance and Cleaning.
      - 5) Security.
    - f. Signatures of:
      - 1) Engineer
      - 2) Contractor

- 3) Owner
3. Owner occupancy of Project or Designated Portion of Project:
  - a. Contractor shall:
    - 1) Obtain certificate of occupancy.
    - 2) Perform final cleaning in accordance with Section 01740.
  - b. Owner will occupy Project, under provisions stated in Certificates of Substantial Completion.
4. Contractor: Complete work listed for completion or correction, within designated time.
- D. Should Engineer consider that work is not Substantially Complete:
  1. Engineer shall immediately notify Contractor, in writing, stating reasons.
  2. Contractor: Complete work, and send second written certification to Engineer, certifying that Project or designated portion of Project is substantially complete.
  3. Engineer will reinspect work.
- E. Should Engineer consider that work is still not finally complete:
  1. Engineer shall notify Contractor, in writing, stating reasons.
  2. Contractor shall take immediate steps to remedy the stated deficiencies, and send third written notice to the Engineer certifying that the work is complete.
  3. Engineer and Owner will reinspect work at Contractor's expense.

### **1.03 FINAL INSPECTION**

- A. Contractor shall submit written certification that:
  1. Contract Documents have been reviewed.
  2. Project has been inspected for compliance with Contract Documents.
  3. Work has been completed in accordance with Contract Documents.
  4. Equipment and systems have been tested in presence of Owner's Representative and are operational.
  5. Project is completed, and ready for final inspection.
- B. Engineer will make final inspection within seven (7) days after receipt of certification.
- C. Should Engineer consider that work is finally complete in accordance with requirements of Contract Documents, he shall request Contractor to make Project Closeout submittals.
- D. Should Engineer consider that work is not finally complete:
  1. Engineer shall notify Contractor in writing, stating reasons.
  2. Contractor shall take immediate steps to remedy the stated deficiencies, and send

second written notice to Engineer certifying that work is complete.

3. Engineer will reinspect work.

#### **1.04 CLOSEOUT SUBMITTALS**

- A. Project Record Documents: To requirements of Section 01785.
- B. Guarantees, Warranties and Bonds: To requirements of particular technical Specifications and Section 01782.
- C. Project Closeout Checklist: Contractor shall submit all required items to the Engineer and/or Owner with their responsibility identified. See Project Closeout Checklist included in this section.

#### **1.05 INSTRUCTION**

- A. Instruct Owner's personnel in operation of all systems, mechanical, electrical, and other equipment.

#### **1.06 FINAL APPLICATION FOR PAYMENT**

- A. Contractor shall submit final applications in accordance with requirements of General Conditions.

#### **1.07 FINAL CERTIFICATE FOR PAYMENT**

- A. Engineer will issue final certificate in accordance with provisions of general conditions.
- B. Should final completion be materially delayed through no fault of Contractor, Engineer may issue a Semi-Final Certificate for Payment.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION**

#### **3.01 PROJECT CLOSEOUT CHECKLIST**

- A. See attached Project Closeout Checklist.



### RMP Project Closeout Checklist

DMQ Project Manager (DMQ PM): Bob Peterson, PE  
 RMP Project Manager (RMP PM):  
 Engineer of Record (EOR):  
 Contractor:  
 File Manager: Dawn Williams  
 Project Name:



Task	From	To	CC	Complex Submitted	Approved	Closeout Requirement
1	EOR	DMQ PM				Copy of plan to the plan will include description of facility, how it was design to work, and DMQ PM will provide copy to Pump Station Manufacturer or Final Staff
2	EOR	DMQ PM				Letter or email from EOR with address to the
3	Contractor	EOR				Letter or email from EOR with address to the
4	Contractor	EOR				Letter or email from EOR with address to the
5	Contractor	EOR				Letter or email from EOR with address to the
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23	Contractor	EOR				Letter or email from EOR with address to the
24	Contractor	EOR				Letter or email from EOR with address to the

Notes

END OF SECTION



## **SECTION 01785 - PROJECT RECORD DOCUMENTS**

### **PART 1 - GENERAL**

#### **1.01 MAINTENANCE OF DOCUMENTS**

- A. Maintain at job site, one copy of:
  - 1. Contract Drawings
  - 2. Specifications
  - 3. Addenda
  - 4. Reviewed Shop Drawings
  - 5. Change Orders
  - 6. Other Modifications to Contract
- B. Store documents in approved location, apart from documents used for construction.
- C. Provide files and racks for storage of documents.
- D. Maintain documents in clean, dry, legible condition.
- E. Do not use record documents for construction purposes.
- F. Make documents available at all times for inspection by Engineer and Owner.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Submittals: Section 01300.

#### **1.03 MARKING DEVICES**

- A. Provide colored pencil or felt-tip marking pen for all marking.

#### **1.04 RECORDING**

- A. Label each document "PROJECT RECORD" in 2-inch high printed letters.
- B. Keep record documents current.
- C. Do not permanently conceal any work until required information has been recorded.
- D. Contract Drawings: Legibly mark to record actual construction:
  - 1. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
  - 2. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
  - 3. Field changes of dimension and detail.

4. Changes made by Change Order or Field Order.
  5. Details not on original Contract Drawings.
- E. Specifications and Addenda: Legibly mark up each section to record:
1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
  2. Changes made by Change Order or Field Order.
  3. Other matters not originally specified.
- F. Shop Drawings: Maintain as record documents; legibly annotate shop drawings to record changes made after review.

**1.05 SUBMITTALS**

- A. At completion of project, deliver two hard copies and one CD with pdf of all record documents to Engineer.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
1. Date.
  2. Project Title and Number.
  3. Contractor's Name and Address.
  4. Title and Number of each Record Document.
  5. Certification that each Document as Submitted is Complete and Accurate.
  6. Signature of Contractor, or His Authorized Representative.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## SECTION 02222 - EXCAVATION

### PART 1 - GENERAL

#### 1.01 SCOPE

- A. The work described by this Section consists of furnishing all labor, materials, equipment and supplies as required to construct launching and exit shafts associated with tunnel construction.
- B. Work shall be done in strict accordance with the Contract Documents, and in accordance with all Federal, State and local laws, regulations, and requirements.
- C. All available and known geotechnical reports, logs, borings, and laboratory testing performed within close proximity of the project corridor have been made available as "technical data" and are not part of the Contract Documents. This is provided as information only and solely for the convenience of Bidders. The Owner and/or the Engineer do not warrant or guarantee the accuracy or correctness of this material with respect to actual subsurface conditions. Subsurface conditions are considered unclassified and no expectation of quantity, specific location of ground conditions, or geotechnical baselines are provided or assumed herein.
- D. For all shafts defined under this Section, Contractor shall excavate and support of excavation using techniques and methods selected by the Contractor that are appropriate for prevailing ground conditions. Contractor shall review all available geotechnical reports and data and perform any additional subsurface investigations they deem necessary at their own expense for the planning and the selection of shaft construction techniques and methods in order to enable proper construction as shown on the Drawings and other requirements of the Contract Documents.
- E. Shaft installation techniques and methods of construction shall include all equipment, materials, and selection of associated support of excavation best suited for ground conditions, as required to maintain face stability, reduce wear, advance heading within line and grade tolerances, transport spoils, and accomplish productivity assumed in Bid.
- F. Where warranted in the experience of the Contractor or where identified on the Drawings, ground modification shall be provided as part of the appropriate preparation for tunneling activities to reduce risk of surface settlement and heaving, protect nearby structures and utilities, and successfully install the piping system within line and grade tolerances. Contractor shall design and include in their Bid the furnishing of all labor, equipment, materials, and supplies necessary for ground stabilization by jet grouting, compaction grouting, void filling, soil mixing, slurry walls or other ground modification technologies to meet project objectives specified herein.
- G. Dewatering shall be controlled such that the launching and exit shafts are free of water, but the surrounding groundwater table is not substantially lowered such that settlement along the tunnel drive or nearby existing structures and foundations does not occur.
- H. The Contractor shall furnish all labor, equipment, and material required to complete the work including but not limited to the following:
  - 1. Initial support system and all related components.
  - 2. Spoil transportation, removal, and disposal.
  - 3. Safety and security.

4. Hoisting and lifting.
  5. Control equipment and required power.
  6. Launching and exit shafts construction including, but not limited to, rehandling and disposal of unsuitable and excess materials, control of groundwater and surface water, utility adjustment/supports, tests, excavation, sheeting and shoring, shaft wall thrust blocking, backfilling, cleanup, and restoration of surface features, and all other work necessary for construction as specified and/or shown on the Drawings.
- I. Follow all OSHA regulations regarding tunnel construction including but not limited to OSHA 29 CFR Part 1926. Obtain all permits required associated with OSHA regulations and requirements for confined space entry.
  - J. Conform with all requirements of the Kentucky Transportation Cabinet (KYTC) for work within their rights-of-way.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 02225 – Excavation, Backfilling and Compaction for Sewers
- B. Section 02441 – Tunneling by Slurry Microtunnel Boring Machine
- C. Section 02442 – Tunneling by Tunnel Boring Machine
- D. Section 02444 – Tunneling by Pipe Jacking with Shield Method
- E. Section 02445 – Utility Hand Tunneling
- F. Section 02446 – Tunneling by Guided Bore and Jack Method
- G. Tunneling Method Table in Project Specific Notes (PSN)

#### **1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS**

- A. Without limiting the generality of the other requirements of the Specifications, all work herein shall conform to the applicable requirements of the following documents. All referenced specifications, codes, and standards refer to the most current issue available at the time of Bid.
  1. Applicable codes, ordinances, statutes and governing rules and regulations of governing municipalities and counties, the Commonwealth of Kentucky, and the Federal Government.
  2. American Association of State Highway and Transportation Officials (AASHTO).
  3. American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering.
  4. Occupational Safety and Health Administration (OSHA) Regulations and Standards for Underground Construction 29 CFR Part 1926, subpart S and other applicable OSHA parts.
  5. Applicable ASTM and AWWA Standards for materials and methods.
  6. Kentucky Transportation Cabinet (KYTC) Permit Guidance Manual

7. All applicable guidelines and restrictions of the United States Army Corps of Engineers (USACE) and Department of Environmental Protection (DEP).

#### **1.04 DEFINITIONS**

- A. Unless otherwise stated or context otherwise requires, the definitions and provisions contained in this section shall govern the construction, meaning, and application of words and phrases utilized in this specification. For purposes of this specification, the following terms are defined as follows:
  1. Exit Shaft or Retrieval Shaft: Shaft utilized for retrieval of tunneling equipment.
  2. Ground Modification: soil stabilization by jet grouting, compaction grouting, void filling, soil mixing, slurry walls, or other ground stabilization technologies to meet project objectives specified herein.
  3. Support of Excavation: The support system selected, designed and installed by Contractor to support launching shafts, exit shafts, and rescue shafts.
  4. Launching Shaft or Entrance Shaft: Shaft utilized at the start of the tunneling operation.
  5. Rescue Shaft: Shaft utilized to access tunneling equipment for repair or removal of obstruction.
  6. Spoil: Excavated soil and bedrock material that has been generated by the shaft construction process.

#### **1.05 DESIGN CRITERIA**

- A. The Contractor is responsible for the design, installation, maintenance and safety of the shaft's excavation and its support of excavation. All design calculations provided by the Contractor as part of the required submittals shall be sealed by a Licensed Professional Engineer registered in the Commonwealth of Kentucky.

#### **1.06 SUBMITTALS**

- A. Conform to Section 01300 – Submittals.
- B. Detailed shaft construction methodology sufficient to convey the following:
  1. Proposed method of shaft excavation and support of excavation system
  2. Drawings and design details for launching and exit shafts, indicating number required, proposed spacing, criteria for installing, and method of operation.
  3. Number and duration of shifts planned to be worked each day in accordance with restrictions on work hours.
  4. Sequence of work/operations.
  5. Procedures for handling, control and disposal of surface water, and groundwater inflow.
  6. Method of spoil transportation, surface storage, and disposal location. A description indicating the locations of material disposal sites and releases from property owners.

7. Survey methods and proposed procedures for alignment and grade control.
  8. Identification of critical utility crossings and special precautions proposed.
- C. Ground Modification Plan: Contractor shall design and submit proposed ground modification strategies for review and acceptance including soils stabilization methods and surface settlement prevention plan for areas adjacent to shafts.
- D. Ventilation Plan. Provide shaft ventilation plan. Ventilation plan to include a written description, calculations, drawings, fan curves, and manufacturer's catalogue cut sheets. Ventilation plan shall be designed by a competent person with at least five (5) years of recent on-the-job experience on similar projects, involving shafts of similar size constructed by similar methods. Provide qualifications of Designer.
- E. Settlement Monitoring Plan and Site Assessment:
1. Submit a settlement monitoring plan for review prior to construction. The plan shall be in accordance with Article 3.03.
- F. Daily Reports. A shift log shall be maintained on a daily basis by Contractor. Submit reports no later than 24 hours after the end of the shift to the Engineer. Daily reports shall include at a minimum the following:
1. Details of shaft excavation progress.
  2. Hours worked per shift, equipment and materials used, and the duration of different activities performed.
  3. Groundwater control operations, groundwater inflow location and rates.
  4. Observation of any lost ground or other ground movement.
  5. Any unusual conditions or events.
  6. Reasons for operational shutdown whenever construction is halted.
  7. Air quality reports for dust, toxic and hazardous gases, and other atmospheric impurities in the working environment.
- G. Record Drawings: Maintain at construction site a complete set of field drawings for recording of as-built conditions. All marks and notes shall be dated and thorough.
- H. Permits: The Contractor shall be responsible for executing the requirements of permits obtained from the KYTC, United States Army Corps of Engineers, and any State and local authority where the project is located. The Contractor shall be responsible for any phase submittals required by the permits. All submittal information required by the project permits shall be channeled through the Engineer.

#### **1.07 QUALIFICATIONS**

- A. The Contractor or Subcontractor performing shaft construction must demonstrate in writing that he has requisite past project experience constructing shafts similar to those for this Project.
- B. The Contractor or Subcontractor shall have the following minimum experience related to shaft construction:

1. A minimum of five (5) years of experience performing utility tunneling with shafts of similar size.
2. Three (3) tunnel projects with shafts of similar size and depth completed within the last 10 years.

#### **1.08 QUALITY ASSURANCE**

- A. Work shall be supervised by at least one (1) person with five (5) years of recent previous experience in shaft and tunnel construction. Experience shall be in a minimum of five (5) previous tunneling projects of similar size and scope.
- B. All shaft excavation and support operations shall be performed under the supervision of experienced shift foremen with at least five (5) years of recent on-the-job supervision experience on similar projects involving shafts of similar size constructed using similar methods.
- C. Operators shall be experienced in shaft excavation and support with prior knowledge and ability to properly operate the systems being employed. All operators shall have minimum of five (5) years' experience on shaft construction of similar size.

#### **1.09 PRE-INSTALLATION MEETING**

- A. At least three weeks prior to commencing the work of this section, convene a Pre-Installation Meeting at the job site to be attended by:
  1. Contractor and any sub-contractor performing any related work.
  2. Project Owner.
  3. Engineer.
  4. Any other pertinent stakeholders.
- B. Meeting shall cover settlement monitoring, work hours, safety, staging and storage of materials, schedule, any changes to on-site staff from original Work Plan submittal, permitting, and the development of record drawings, etc. to ensure successful implementation of all requirements of this specification during shaft construction.

#### **1.10 DELIVERY, STORAGE, AND HANDLING**

- A. The Contractor shall accept material on site and inspect for damage.
- B. The Contractor shall handle, support and store materials to prevent injury or damage.

#### **1.11 ENVIRONMENTAL REQUIREMENTS**

- A. Conduct operations to not interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in immediate or adjacent areas.
- B. Conduct operations to not interfere with roadway traffic, except with prior approval by the Kentucky Transportation Cabinet (KYTC) (where applicable), Lexington-Fayette Urban County Government, and the Owner.
- C. Provide temporary facilities to prevent erosion of disturbed construction area in accordance with the approved Erosion & Sedimentation Control Plan and Contract Documents.

- D. Maintain existing stormwater flow patterns or submit measures to temporarily bypass in accordance with the Erosion & Sedimentation Control Plan and Contract Documents.

## **1.12 COORDINATION**

- A. Coordinate work with local, State, and Federal authorities and utility owners to avoid interference with or damage to existing facilities in or adjacent to construction areas.

## **PART 2 – PRODUCTS**

### **2.01 MATERIALS**

- A. General: provide adequate shoring and bracing materials which will support loads imposed. Materials need not be new but shall be in serviceable conditions.
- B. Structural Steel: ASTM A 36.
- C. Steel Sheet Piles: ASTM A 328.
- D. Timber Lagging: Any species, rough-cut, mixed hardwood, nominal three inches thick.
- E. Portable Steel Trench Box shall be OSHA approved.

## **PART 3 – EXECUTION**

### **3.01 PROJECT SITE CONDITIONS**

- A. Shaft construction shall not begin until the following have been completed:
  - 1. Required submittals have been made and the Engineer has reviewed and accepted all submittals.
  - 2. Notify the Owner and Engineer at least 14 days before beginning any excavation.
  - 3. Installation of ground modification, if required.
  - 4. Groundwater control, if required.
  - 5. A Safety Officer has been designated and prepared a Health and Safety Plan in accordance with OSHA requirements for tunnel construction. The Safety Officer shall have held safety meetings and provided safety instruction for new employees as required by OSHA.
  - 6. Pre-Installation Meeting has been held and all comments have been addressed from the meeting.
  - 7. Settlement monitoring system is in place and pre-construction readings have been provided to the Engineer.
  - 8. Pre-construction survey documents have been submitted to the Engineer.
- B. Perform shaft construction to the extent indicated on the Drawings so as not to interfere with, interrupt or endanger surface activity thereon, and minimize subsidence of surface, structures, and utilities. Roadway, utilities, and/or structures damaged by shaft construction operations shall be repaired or replaced as necessary to restore them to their condition prior to beginning shaft construction in a timely manner, unless otherwise directed by the Engineer, at no additional cost to Owner.



- C. Furnish all necessary equipment, power, water, and utilities for shaft construction, removal and disposal of spoil, grouting, and other associated work required for the Contractor's methods of construction.
- D. Promptly clean up, remove, and dispose of all spoil.
- E. Furnish all maintenance of traffic and establish and maintain all safety procedures on any highways whose thoroughfare is interrupted due to the tunneling operation.
- F. Inspect the locations where shaft construction will be conducted, verify conditions under which the work will be performed, and provide all necessary details, whether shown or specified on the Drawings or not, for the orderly prosecution of the Work.

### **3.02 PREPARATION**

- A. Existing utilities shown on Drawings are shown for general information only. Contractor shall verify locations, sizes, and configurations of existing utility systems within potential conflict of installation operations.
- B. Complete any required testing, inspection, surveying, etc., of any existing utilities required by the Contract Documents.
- C. Call Local Utility Line Locate Service (811) not less than five working days before performing Work.
- D. Request underground utilities to be located and marked within and surrounding the construction areas.
- E. Locate, identify, and protect utilities indicated to remain from damage.
- F. Protection
  - 1. Protect plant life, lawns, rock outcroppings and other features remaining as portion of final landscaping.
  - 2. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic. Repair or replace all items damaged during construction.
  - 3. Repair or replace structures raised more than 0.50-inch due to shaft construction operations including pavement and sidewalk.
- G. Ventilation
  - 1. Furnish and operate a temporary ventilation system and air monitoring system in accordance with the approved ventilation plan and conforming to the requirements of OSHA at all times that personnel are present in the shaft. Operate and maintain a ventilation system that provides a sufficient supply of fresh air and maintains an atmosphere free of toxic or flammable gases in all underground work areas.
  - 2. Before any personnel enters the shaft, the air quality must be tested and verified that the OSHA requirements pertaining to air quality are met or exceeded.
- H. Barricades

1. Protect shafts and other open excavations with barricades and security fencing as indicated on the Drawings and with additional measures approved by the Engineer and Owner as required to prevent unauthorized personnel from accessing.
2. During non-work hours, isolate with additional measures approved by the Engineer and Owner as required to prevent unauthorized personnel from accessing.
3. Remove equipment daily from vehicular and pedestrian roads, sidewalk, and pathways not contained within the direct work area to permit access and use by public.

### **3.03 SETTLEMENT MONITORING**

- A. The Contractor will be held solely responsible for damages to highway and street surfaces, railroads, pavements, structures, structural embankments, sidewalks, curbing, and public utilities resulting from subsidence, failure of support of excavation system, or ground losses and for the refilling of voids with grout. Where such ground losses are so severe that they result in damage to surface pavement, existing utilities or structures, the Contractor shall be solely responsible for remedying such damage.
- B. As a minimum, surface monitoring points shall be established consisting of settlement markers to detect surface movement of roadways and pavements.
- C. Survey the site showing locations and elevations of existing ground, pavement, and other permanent features to establish a baseline for existing conditions adjacent to each shaft. All surveying performed for settlement monitoring shall be performed by a Professional Land Surveyor licensed in the Commonwealth of Kentucky at the Contractors expense.
- D. Surface settlement marks:
  1. Surface settlement markers shall be located adjacent to each shaft as designed by the Contractor and approved by the Engineer.
- E. All markers/points shall be surveyed as follows:
  1. Prior to beginning any work.
  2. Every 24 hours by the licensed surveyor during shaft construction.
  3. At the completion of shaft construction.
  4. The same points shall also be surveyed 90 days after the work is completed and both shafts have been backfilled.
- F. Ground Surface Movement:
  1. Shaft construction shall be performed to prevent settlement and loss of ground.
  2. Unless more stringent requirements are set forth by third party agencies, settlement of the ground surface shall not exceed 0.25-inch.
  3. If the ground subsidence exceeds 0.25-inch, shaft construction operations shall stop, and remedial measures approved by the Engineer shall be implemented.
  4. If any movement or settlement occurs which causes or might cause damage to an existing structure over, along or adjacent to the work, immediately stop any or all work except that which assists in making the work secure and in preventing further

movement, settlement, or damage. Resume shaft construction only after all necessary precautions have been taken to prevent further movement, settlement, or damage, and repair the damage at the Contractor's expense and to the satisfaction of the Engineer.

- G. Lateral Displacements: Unless more stringent requirements are set forth by third party agencies, lateral movement or deflection of shaft excavation support system shall be limited to 0.50-inch.
- H. Report any settlement or movement immediately to the Engineer and applicable agency and take immediate remedial action.

### **3.04 GROUNDWATER CONTROL**

- A. Intercept and divert surface drainage, precipitation, and groundwater away from shaft excavations through use of dikes, curb walls, ditches, pipes, sumps, or other means within the conditions permitted by the approved Erosion & Sedimentation Control Plan and the Contract Documents.
- B. Develop substantially dry shaft subgrades for prosecution of subsequent tunneling operations.
- C. Shaft subgrades shall be kept continuously free from ground and surface waters during tunneling operations. Dewatering shall be controlled such that the launching and exit shafts are free of water, but the surrounding groundwater table is not substantially lowered.
- D. Keep removal of soil particles to a minimum.
- E. Water discharge from dewatering operations shall be directed into approved receiving basins or silt bags in accordance with all applicable regulatory requirements and the approved Erosion & Sedimentation Control Plan.
- F. Should settlement or displacement be detected, notify the Engineer and applicable agency immediately and act to maintain safe conditions and prevent damage.

### **3.05 GROUND MODIFICATION PRIOR TO SHAFT CONSTRUCTION**

- A. Ground modification grout requirements are set forth in Section 02431 – Tunnel Grout.
- B. The use of jet grouting, compaction grouting, void filling, soil mixing, slurry walls, permeation grouting, compensation grouting, ground freezing, or other ground modification technologies shall be carefully considered by the Contractor to safely permit Contractor's selected shaft construction method in loose and flowable soils or in rock that is fractured with joints, bedding planes, shears, or fault zones beneath the groundwater table. Contractor shall determine if ground modification is needed to maintain a stabilized shaft excavation by Contractor's selected means of excavation and be fully responsible for the determination of the necessity, selection, design, and implementation of ground modification strategies.
- C. Ground modification strategies shall be designed to work in concert with Contractor's selected shaft excavation methods and implemented as needed to increase bearing capacity, provide settlement control, reduce permeability, and increase stand-up time at the face within the shaft, and shall be included in the Bid.
- D. Contractor shall furnish all labor, equipment, materials, and supplies necessary for ground modifications required to meet project objectives specified herein.

### **3.06 EQUIPMENT**

## **SECTION 02223 - STRUCTURAL FILL AND EMBANKMENT**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. Structural Fill
- B. Embankment
- C. Compaction Requirements

#### **1.02 RELATED SECTIONS**

- A. Earthwork: Section 02200
- B. Excavating, Backfilling, and Compacting for Utilities: Section 02225
- C. Lawns and Grasses: Section 02920

#### **1.03 QUALITY ASSURANCES**

- A. The Owner to perform soil testing and inspection service for quality control testing during earthwork operations.

#### **1.04 REFERENCES**

- A. Commonwealth of Kentucky, Standard Specifications for Road and Bridge Construction, latest edition.
- B. ANSI/ASTM D698 – Standard Test Method for Laboratory Compaction characteristics of Soil Using Standard Effort.
- C. ANSI/ASTM D1556 – Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Core Method.
- D. ASTM D2922 – Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- E. ASTM D3017 – Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

#### **1.05 TESTS**

- A. Contractor must provide laboratory tests and analysis of fill materials in accordance with applicable referenced standards and under provisions of Section 01400. The laboratory test shall be conducted by a third party independent Laboratory acceptable to the Owner. The cost of the Laboratory testing shall be paid by the Contractor. Tests shall include, but not be limited to, gradation analysis, classification, liquid limit, plastic limit, plasticity index, and moisture/density relationships.

- B. The Owner will pay all cost associated with field compaction testing that will be performed in accordance with applicable referenced standards and under provisions of Section 01400.
- C. When ASTM D2922 is used, the calibration curves shall be checked and adjusted if necessary by the procedure described in ASTM D2922, paragraph ADJUSTING CALIBRATION CURVE. ASTM D2922 results in wet unit weight of soil; and when using this method, ASTM D3017 shall be used to determine the moisture content of the soil. The calibration checks of both the density and moisture gages shall be made at the beginning of a job on each different type of material encountered and at intervals as directed by the testing laboratory.
- D. Testing as required for verification of design bearing capacities.
- E. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

## **1.06 SUBMITTALS**

- A. The Owner's testing agency shall submit reports directly to the Engineer in accordance with Section 01400, and copies to the Contractor. As a minimum, reports shall consist of the following:
  - 1. Verification of each foundation subgrade.
  - 2. Field density test reports.
- B. The Contractor's testing agency shall submit reports directly to the Engineer in accordance with Section 01400, and copies to the Contractor. As a minimum, reports shall consist of the following:
  - 1. Test reports on borrow material and structure excavation to be use for compacted fill.
  - 2. One optimum moisture-maximum density curve for each type of soil encountered.
  - 3. Report of actual unconfined compressive strength and/or results of bearing tests on each strata tested.

## **PART 2 - PRODUCTS**

### **2.01 COMPACTED FILL MATERIALS**

- A. Soils (onsite or offsite) used for compacted structural fill, backfill, and embankment shall be inorganic clayey soils free of deleterious debris or rocks whose largest dimension is no larger than four (4) inches in any direction. [The soil shall have a plasticity index of less than 30. Fill lifts shall be compacted to a minimum of 95 percent of the soil's maximum dry density (ASTM D 698) with a moisture content of compacted fill within three (3) percent of optimum moisture.]
- B. Crushed stone used for compacted structural fill shall be Kentucky Dense Graded Aggregate per Kentucky Transportation Cabinet Standard Specifications for Road and Bridge Construction, current edition, unless otherwise shown on the Drawings. All crushed stone backfill around structures will be DGA, unless otherwise noted on the drawings.
- C. Open graded stone used for compacted backfill shall be Kentucky No. 57 size aggregate per Kentucky Transportation Cabinet Standard Specifications for Road and Bridge Construction, current edition, unless otherwise shown on the Drawings.

- D. On-site soils shall be tested for suitability for use as structural fill material. The old fill material may be used as structural fill if tests show suitability and all deleterious materials are removed and large boulders are crushed to meet maximum particle size criteria specified in this section.
- E. Frozen material shall not be placed in compacted fills.
- F. All material, whether from the excavations or from borrow, shall be of such nature that after it has been placed and properly compacted, it will make a dense suitable fill. It shall not contain vegetation, masses of roots, individual roots more than 18 inches long or more than 1/2-inch diameter, stones over four (4) inches in diameter, or porous matter.
- G. All structures bearing on rock that are undercut to rock shall be backfilled from competent rock bearing to bottom of foundation with lean concrete. The undercut area shall be equal to the dimensions of the structure plus an additional one (1) foot of width on each side of the structure for every one (1) foot of undercut below the design finished subgrade elevation. The lean concrete is to extend vertically, from the outmost edge of the zone of influence to the bottom of foundation elevation from the rock bearing surface.
- H. All old undocumented fill shall be removed to stiff or better residual soil under any soil bearing structure, including the roadway or embankment for the roadway.
- I. For structures which are backfilled from competent rock bearing with DGA, the undercut area shall be equal to the dimensions of the structure plus an additional one (1) foot width on each side of the structure for every one (1) foot of undercut below the design finished subgrade elevation. The dense grade structural fill is to extend vertically, from the outmost edge of the zone of influence to the subgrade elevation from the rock bearing surface. Backfill from competent rock with DGA must be approved by the Project Engineer and the Design Geotechnical Engineer.

## **2.02 TOPSOIL**

- A. All topsoil and organic materials shall be stripped from the construction area and all structural fill areas.
- B. Topsoil shall be as specified in Section 02920 – Lawns and Grasses.

## **PART 3 – EXECUTION**

### **3.01 GENERAL**

- A. Granular and soil fill shall be placed in maximum 8-inch thick loose lifts and compacted to 95 percent of maximum dry density (ASTM D 698) and within three (3) percent of optimum moisture content as determined by the standard Proctor moisture density test. Any fill to be compacted with small compaction equipment (such as a plate compactor, trench compactor, or similar means) should be placed in maximum four (4) inch loose lifts. Minimal vibration should be used in compaction equipment on silty and clayey soils existing on the site.
- B. If field conditions warrant, dry DGA may be placed at the direction of the Owner's Geotechnical Engineer. If dry DGA is placed, a "roller pattern" shall be performed to determine a target density.
- C. Any area of the subgrade deemed to be soft, unsuitable material, or not readily capable of in-situ compaction, shall be removed. These areas shall be over-excavated to suitable material

as approved by the Owner's Geotechnical Engineer or his representative. The over-excavated area shall be brought up to the desired grade using concrete, crushed stone fill, or compacted soil fill as required by the Owner's Geotechnical Engineer or his representative, and the Contract Documents. The fill material for the over-excavated area shall meet all compaction or strength requirements as specified herein. The Contractor shall be responsible for this work in areas where the Contractor has previously placed fill.

- D. Maintain optimum moisture content of backfill material to attain required compaction density as specified. Material deposited on the fill that is too wet shall be removed or spread and permitted to dry, assisted by diking or blading, if necessary, until the moisture content is reduced to the specified limits.
- E. Backfill areas to contours and elevations. Use unfrozen materials. The Contractor shall keep the foundation and subgrade free from water or unacceptable materials after the fill operations have started.
- F. Backfill systematically, as early as possible, to allow time for natural settlement. Do not backfill over porous, wet, or spongy subgrade surfaces.
- G. Verify areas to be backfilled are free of debris, snow, ice, or water, and ground surfaces are not frozen. Previously frozen material shall be removed or otherwise treated as required before new backfill is placed.
- H. Employ a placement method so as not to disturb or damage foundation drainage and piping.
- I. Walls below final grade shall be backfilled with a minimum 12-inch thick layer of free draining material up to two feet below final grade. The two feet above this free draining material should be backfilled with an impervious material that would retard surface water infiltration. The free draining material should extend down to a rock blanket beneath the bottom slab.
- J. Where backfilling behind walls and other locations, as shown on the Drawings, provide filter fabric at the interface between crushed stone and soil backfilling.
- K. Backfill shall not be placed against or on structures until they have attained sufficient strength to support all loads to which subjected without distortion, cracking, or damage. Deposit soil evenly around the structure.
- L. For structures with concrete top slabs, there shall be no backfilling operations until the top slab is in place and cured for a minimum of 7 days and has reached 70% of its 28 day design strength, unless noted otherwise on the plans or approved by the Engineer.
- M. Slope grade away from structures minimum two (2) inches in ten (10) feet, unless noted otherwise.
- N. Make changes in grade gradual. Blend slopes into level areas.
- O. Remove surplus excavation materials to designated areas.
- P. Rough grading above compacted fill areas shall have been completed to approximately six (6) inches below finished grade and brought back up to grade with six (6) inches of topsoil.
- Q. Tolerance for top surface of fill shall be plus or minus one (1) inch.
- R. Plow, strip, or break up existing sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
- S. Maintain site grading during construction so that positive drainage of soils is promoted at all

times.

- T. Maintain a subgrade free of standing or ponding water.
- U. For soils, underneath soil bearing structures, that will remain exposed overnight or for an extended period of time, place a lean concrete mudmat over the bearing areas. The concrete shall be at least four (4) inches thick.

### 3.02 STRUCTURAL FILL

#### A. Compacted Fill Under Structures

1. All fill under indirect rock-bearing structures shall be lean concrete unless otherwise shown on the Drawings.
2. Where compacted soil or compacted dense grade aggregate is shown on the Drawings to be under structures, compact soil or DGA fill to a minimum of 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content. On-site and off-site soils shall have a plasticity index of less than 30 percent. Fill shall be placed in maximum eight (8) inch lifts. Maximum particle size shall be four (4) inches in any one direction.
3. Where soil fill is shown on the drawings, compact the top 12 inches of soil subgrades to a minimum of 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content.
4. Structures bearing on rock shall bear directly on benched leveled solid bedrock or lean concrete backfill. Loose, weathered, and uneven rock shall be removed to reach a level, solid, bedrock. Provide concrete fill for the additional depth as required.
5. Structures shall not be supported on a combination of crushed stone or soil and bedrock. If rock is encountered above the soil subgrade level when excavating for structures bearing on soil, excavate bedrock to a point two (2) feet below the foundation level and fill with compacted crushed stone or soil, as required.
6. If field conditions warrant, dry DGA may be placed. If the DGA will be placed dry, field density testing will yield distorted results. A "roller pattern" may be performed to determined target dry density.
7. Any backfill required due to over blasting shall be placed in accordance with the Specifications at no additional cost to the Owner.

#### B. Compacted Fill Under Piping

1. Compact to a minimum of 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content.
2. Compact fill to a minimum of 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content. Soils shall have a plasticity index of less than 30 percent. Fill shall be placed in maximum eight (8) inch lifts. Maximum particle size shall be four (4) inches in any one direction.
3. For crushed stone or aggregate backfills in trenches or wall backfill and when using smaller compaction equipment the lift thickness should not exceed four (4) inches.

#### C. Compacted Backfill Around Structures



1. Compact to a minimum of 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content.
2. Soil backfill shall be used in accordance with 2.01(A) and shall be placed in maximum 8-inch loose lifts and compacted 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content as determined by the standard Proctor moisture density test. Any fill to be compacted with small compaction equipment (such as a plate compactor, trench compactor, or similar means) should be placed in maximum four (4) inch loose lifts. Minimal vibration should be used in compaction equipment on silty soils existing on the site.

D. Compacted Fill Under Roads, Drives, and Walks

1. Compact structural fill under roads, drives, and walks to a minimum of 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content.
2. Prior to stone base placement, the subgrade area shall be proofrolled (GVW with at least 80,000 pounds) to verify subgrade conditions. Undercutting or repair may be required, as directed by the geotechnical engineer.
3. Structural fill will be required under the roadway within the zone of influence. The zone of influence is defined as a 1:1 (one to one) slope from the proposed grade to the existing grade. The zone of influence must be proofrolled as previously stated. If pumping occurs, materials must be removed along the 1:1 (one to one) zone of influence.

E. Compacted Fill Under Slab-on-Grade Floor Slabs

1. If rock is encountered within twelve (12) inches of the finished subgrade elevation, the rock shall be undercut to at least twelve (12) inches below the subgrade and backfilled with compacted soil. The floor slab shall not bear on a combination of rock and soil.
2. Place a minimum of four (4) inches of compacted dense graded crushed stone beneath the slab.
3. The Contractor shall keep the crushed stone moist, but not wet, immediately prior to slab concrete placement to minimize slab curling.

### 3.03 EMBANKMENT

- A. Embankment is considered to be fill areas of the site that do not support structures, piping, drives, or walks. This includes areas above piping elevations.
- B. All compacted embankment areas shall be compacted to a minimum of 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content.
- C. Fill placed on side slopes must be placed in horizontal lifts starting at the toe of the slope while securely benching the new fill material into the existing slope. Continue to place the fill in horizontal lifts until final proposed grade is reached.

### 3.04 TOPSOIL

- A. Topsoil shall be spread and lightly compacted in accordance with Section 02920 – Lawns

and Grasses.

### 3.05 FIELD QUALITY CONTROL

#### A. Quality Control Testing During Construction

1. Contractor to allow Owner's testing service to inspect structure subgrades and each compacted soil fill layer under structures, report to the Engineer on findings, and approve subgrades and fill layers before further construction work is performed. Inspection to be performed by a qualified soils engineering technician working under the direct supervision of a professional geotechnical engineer.
  2. Testing service to perform field density tests in accordance with ASTM D698, ASTM D1556 (Sand Cone Method) or ASTM D2992 (Nuclear Density Method), as applicable.
    - a. Building Slab and Foundations: Make at least one compaction/moisture percentage and field density test for every 100 square feet of subgrade and lift of compacted fill.
    - b. Foundation Wall Backfill: Make at least one field density test for every 100 square feet per lift of compacted fill, but not less than one test per lift.
    - c. Piping: Make at least one field density test for every 100 square feet of lift of compacted fill.
    - d. Road, Drives, Walks: Make at least one field density test for every 100 square feet of subgrade or lift of compacted fill.
    - e. Embankment: Make at least one field density test for every 2000 square feet of each lift of compacted fill.
  3. Foundation Subgrade: For each strata of soil at each structure on which foundations will be placed, conduct at least one test to verify required design bearing capacities by means of portable dynamic cone penetration (DCP) testing.
- B. If testing service reports and inspection show subgrade or fills which have been placed are below specified density, provide additional compaction and testing at no additional cost to the Owner if requested by the Owner or Engineer.
- C. Where settling is measurable or observable at filled areas during the general project warranty period, remove surface (pavement, sod, etc.), add and compact backfill material, and replace surface.

END OF SECTION

## **SECTION 02225 - EXCAVATING, BACKFILLING, AND COMPACTING FOR SEWERS**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. Excavating of trenches.
- B. Bedding of pipe.
- C. Backfilling trenches.
- D. Installing identification tape.

### **PART 2 - PRODUCTS**

#### **2.01 BEDDING AND BACKFILLING STONE**

- A. Crushed Stone material shall conform to the Kentucky Transportation Cabinet's Standard Specifications for Road and Bridge Construction, Current Edition, latest revision.
- B. Bedding Stone: No. 9 Crushed Limestone
- C. Backfill Stone: No. 9 Crushed Limestone

### **PART 3 - EXECUTION**

#### **3.01 GENERAL REQUIREMENTS**

- A. Trenching may be accomplished by means of a backhoe, trenching machine, hydro-excavation or by hand depending on the construction area. At the Contractor's option, trenching by a trenching machine or by backhoe is acceptable.
- B. Clearing - All trees, stumps, bushes, shrubbery, and abandoned concrete or masonry structures within the limits of the trench shall be removed by the Contractor and disposed of in a manner in accordance with federal, state and local regulations. All clearing work shall be considered as incidental to the cost of laying pipe.
- C. Bracing and Sheeting - Bracing and sheeting shall be provided to adequately protect the workers during pipe line installation.
  - 1. All requirements of the Occupational Safety and Health Act (OSHA) shall be met during trenching and backfill operations.
  - 2. As backfill is placed, the sheeting shall be withdrawn in increments not exceeding one (1) foot and the void left by the withdrawn sheeting shall be filled and with #9 stone.
  - 3. The Engineer will not be responsible for determining requirements for bracing or sheeting.

### 3.02 TRENCHING

#### A. General:

1. The Contractor shall perform all excavation of every description and of whatever substances encountered, including clearing over the pipeline route. All excavations for the pipeline shall be open-cut except where noted for bore and jack.
2. All material excavated, regardless of its nature or composition, shall be classified as UNCLASSIFIED EXCAVATION. Excavation shall include the removal of all soil, rock, weathered rock, rocks of all types, boulders, conduits, pipe, and all other obstacles encountered and shown to be removed within the limits of excavation shown on the Drawings or specified herein. The cost of excavation shall be included in the Unit Price for the pay item requiring excavation to be installed. Excavation for installation of the pipe shall comply with the approved pipe envelope in terms of trench width and bedding depth. No additional payment will be made for the removal of obstacles encountered within the excavation limits shown on the Drawings and specified herein.

#### B. Trench Width:

1. Trench widths shall be in accordance with LFUCG Standard Drawings.
2. **Contractor shall submit a shop drawing that includes a certification from the pipe manufacturer stating the recommended trench width for each pipe size and material being used.**

#### C. Trench Depth:

1. The trench shall be excavated to a minimum of six (6) inches below pipe grade as noted on LFUCG Standard Drawings.

### 3.03 BLASTING AND EXPLOSIVES

#### A. If rock removal by blasting methods is used, blasting must comply with Federal, State, and Local Regulations and National Codes on the purchase, transportation, storage, and use of explosive material. Codes include, but are not limited to the following:

1. Storage, security, and accountability: Bureau of Alcohol, Tobacco, and Firearms (BATF): 27 CFR Part 181.
2. Shipment: DOT, 49 CFR Parts 171-179, 390-397.
3. Safety and Health: OSHA 29 CFR Part 1926, Subpart U.
4. Transportation and Storage: NFPA 495, Chapters 3 through 6.
5. Kentucky Department of Mines and Minerals code for explosive disintegration of rock.

#### B. The Contractor must complete the following before explosives are brought to site:

1. Obtain all required permits from authorities having jurisdiction, with copies to Owner.
2. Obtain Blasting and Liability insurance in accordance with Kentucky Department of Highway requirements. A copy of the Declaration of Insurance shall be provided to the Owner.

3. Complete preblast survey with signed copy to Owner.

C. Preblast survey

1. A preblast survey is to be of such quality to determine whether blasting operations damaged structures. Preblast survey shall utilize video, still images and report forms to document each structure. Video with audible description of observations shall be used to observe general conditions of each structure and to note specific damage that exists to structure prior to blasting. Still images shall be utilized to supplement video as needed to document specific conditions of each structure. Report form shall document date of survey, and who was present during survey. Forms shall also be utilized to supplement video as to the conditions of structures. Existing damage such as cracked foundations, brick facade, and etc. shall have reference object such as a scale in image or video. Audio commentary of cracked foundations, brick facades, etc. shall denote width of cracks. The Contractor shall submit three copies of video, still images, and pdf copies of report forms on CD's.
2. A preblast survey is required for all structures and utilities within a 500 foot radius of the blasting area.
3. At least thirty (30) days before initiation of blasting, the Contractor shall notify, in writing, all residents or owners of dwellings or other structures located within 500 feet of the blasting area advising that they will have a preblast survey performed. Contractor to maintain records of notifications and responses to be submitted to the Engineer.

**3.04 FORCE MAIN BEDDING**

- A. Refer to LFUCG Standard Drawings.
- B. The trench shall be excavated to a depth to allow a minimum of 36 inches cover over the top of the pipe.

**3.05 FORCE MAIN BACKFILLING**

- A. Refer to LFUCG Standard Drawings.

**3.06 GRAVITY SEWER PIPE BEDDING**

- A. Refer to LFUCG Standard Drawings.

**3.07 GRAVITY SEWER PIPE BACKFILLING**

- A. Refer to LFUCG Standard Drawings.

**3.08 INSTALLING IDENTIFICATION TAPE**

- A. Detectable underground marking tape shall be installed over all force mains. Marking tape is not required for gravity sewers. Care shall be taken to insure that the buried marking tape is not broken when installed and shall be Lineguard brand encased aluminum foil, Type III. The identification tape is manufactured by Lineguard, Inc., P.O. Box 426, Wheaton, IL 60187

- B. The identification tape shall bear the printed identification of the plastic utility line below it, such as "Caution – Buried Below". Tape shall be reverse printed; surface printing will not be acceptable. The tape shall be visible in all types and colors of soil and provide maximum color contrast to the soil. The tape shall meet the APWA color code, and shall be two (2) inches in width. Colors are green for sewer and brown for force main.

END OF SECTION

## **SECTION 02240 - DEWATERING**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Furnish all labor and equipment required to dewater all excavations.
- B. Dewatering of all excavations shall be the responsibility of the Contractor, and no additional compensation will be allowed for same.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION**

#### **3.01 GENERAL**

- A. Dewatering equipment shall be of adequate size and quantity to assure maintaining proper conditions for installing pipe, concrete, backfill or other material or structure in the excavation.
- B. Dewatering shall include proper removal of any and all liquid, regardless of its source, from the excavation.
- C. The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches, dikes and shall perform all pumping and other work necessary to divert or remove rainfall and all other accumulations of surface water from the excavations. The diversion and removal of surface water shall be performed in a manner that will prevent flooding and/or damage to other locations within the construction area where it may be detrimental.
- D. The Contractor shall provide, install and operate sufficient trenches, sumps, pumps, hose piping, well points, deep wells, etc., necessary to depress and maintain the ground water level below the base of the excavation during all stages of construction operations.
- E. No groundwater from the excavated area shall be discharged into the sanitary sewer system.
- F. Dewatering shall be in accordance with all state and local regulations/permits/plans.
- G. Trench shall be dewatered as required and never shall the trench accumulate groundwater to a depth that will cause pipe to float.

END OF SECTION

## **SECTION 02260 - EXCAVATION SUPPORT AND PROTECTION**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. This Section includes, but is not limited to, the following:
  - 1. Shoring and bracing necessary to protect existing buildings, streets, walkways, utilities, and other improvements and excavation against loss of ground or caving embankments.
  - 2. Maintenance of shoring and bracing.
  - 3. Removal of shoring and bracing, as required.
- B. Types of shoring and bracing systems include, but are not limited to, the following:
  - 1. Steel H-section (soldier) piles.
  - 2. Timber lagging.
  - 3. Steel sheet piles.
  - 4. Portable steel trench box.
- C. Building excavation is specified in another Division 2 Section.

#### **1.02 RELATED DOCUMENTS**

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.03 QUALITY ASSURANCE**

- A. Engineer Qualifications: A professional engineer legally authorized to practice in jurisdiction where Project is located, and experienced in providing successful engineering services for excavation support systems similar in extent required for this Project.
- B. Supervision: Engage and assign supervision of excavation support system to a qualified professional engineer foundation consultant.
- C. Regulations: Comply with codes and ordinances of governing authorities having jurisdiction.
- D. Layout drawings for excavation support system shall be prepared by, or under the supervision of, a qualified professional engineer. System design and calculations must be acceptable to local authorities having jurisdiction.

#### **1.04 JOB CONDITIONS**

- A. Before starting work, verify governing dimensions and elevations. Verify condition of adjoining properties. Take photographs to record any existing settlement or cracking of structures, pavements, and other improvements. Prepare a list of such damages, verified by dated photographs, and signed by Contractor and others conducting investigation.



- B. Survey adjacent structures and improvements, employing qualified professional engineer, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.
- C. During excavation, resurvey benchmarks weekly, maintaining accurate log of surveyed elevations for comparison with original elevations. Promptly notify Engineer if changes in elevations occur or if cracks, sags, or other damage is evident.

#### **1.05 EXISTING UTILITIES**

- A. Protect existing active sewer, water, gas, electricity and other utility services and structures.
- B. Notify municipal agencies and service utility companies having jurisdiction. Comply with requirements of governing authorities and agencies for protection, relocation, removal, and discontinuing of services.

### **PART 2 - PRODUCTS**

#### **2.01 MATERIALS**

- A. General: Provide adequate shoring and bracing materials which will support loads imposed. Materials need not be new, but should be in serviceable condition.
- B. Structural Steel: ASTM A 36.
- C. Steel Sheet Piles: ASTM A 328.
- D. Timber Lagging: Any species, rough-cut, mixed hardwood, nominal 3 inches thick, unless otherwise indicated.
- E. Portable Steel Trench Box shall be OSHA approved.

### **PART 3 - EXECUTION**

#### **3.01 SHORING**

- A. Wherever shoring is required, locate the system to clear permanent construction and to permit forming and finishing of concrete surfaces. Provide shoring system adequately anchored and braced to resist earth and hydrostatic pressures.
- B. Shoring systems retaining earth on which the support or stability of existing structures is dependent must be left in place at completion of work.

#### **3.02 BRACING**

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move a brace, install new bracing prior to removal of original brace.
- B. Do not place bracing where it will be cast into or included in permanent concrete work, except as otherwise acceptable to Engineer.
- C. Install internal bracing, if required, to prevent spreading or distortion of braced frames.

- D. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.
- E. Remove sheeting, shoring, and bracing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, and utilities.
- F. Repair or replace, as acceptable to Engineer, adjacent work damaged or displaced through installation or removal of shoring and bracing work.

END OF SECTION

## SECTION 02370 - EROSION AND SEDIMENT CONTROL

### PART 1 - GENERAL

#### 1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, and equipment required for installing, maintaining, amending, and removing temporary soil erosion, sediment, and pollutant controls as shown in the Erosion and Sediment Control Plan or Stormwater Pollution Prevention Plan (hereinafter referred to generally as the SWPPP) and as specified herein and as required by the LFUCG Land Disturbance Permit, Chapter 16-Article X, Division 5 of the LFUCG Code of Ordinances, and the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR10).
- B. The Contractor shall take all site management measures necessary to minimize erosion and contain sediment, construction materials (including excavation and backfill), and pollutants (such as chemicals, fuels, lubricants, bitumen, raw sewage, and other harmful waste) on the site, and prevent them from being discharged offsite or into or alongside any body of water or into natural or man-made conveyances leading thereto.
- C. The Contractor shall at all times minimize land disturbance and the period of time that the disturbed area is exposed without stabilization practices. In "critical areas" (within 25 feet of a perennial or intermittent stream, wetland, sinkhole, inlet or other waterbody) erosion prevention measures such as working during dry periods, use of sediment controls, and use of erosion control mats/blankets, mulch, or straw blown in and stabilized with tackifiers or by treading, etc. shall be implemented on disturbed areas within 24 hours or "as soon as practical" after completion of disturbance/grading or following cessation of activities.
- D. Temporary erosion controls include, but are not limited to sodding, mulching, seeding, providing erosion control blankets and turf reinforcement mats on all disturbed surfaces including waste area surfaces and stockpile and borrow area surfaces; covering small disturbed areas with tarps or other materials; scheduling work to minimize erosion; and providing diversion or interceptor ditches to minimize the discharge of sediment.
- E. Temporary sedimentation controls include, but are not limited to, silt fences, rock check dams, berms, traps, barriers, fiber logs, storm drain inlet filters, and appurtenances on sloped surfaces to minimize the discharge of sediment.
- F. Contractor is responsible for providing and maintaining effective temporary erosion and sediment control measures prior to and during construction or until final controls become effective and the site is stabilized in accordance with state and local requirements.
- G. Prior to construction, the Contractor shall obtain an LFUCG Land Disturbance Permit and shall obtain coverage under the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) (see Article 3.24 in this Section) if required. The Contractor shall be responsible for placement of pollutant, erosion, and sedimentation controls as shown in the Stormwater Pollution Prevention Plan (SWPPP) prior to excavation, fill, or grade work. If during the course of construction, the state and/or LFUCG determine additional controls are required, the Contractor shall furnish, install, and maintain additional seeding, mulch, blankets, sediment barriers, diversion or other ditches, and/or other controls as necessary to control pollution, erosion, and sedimentation to the satisfaction of the regulatory agency.
- H. The Contractor shall inspect and repair all erosion and sedimentation controls as follows:
  - 1. At least once every seven (7) calendar days, and
  - 2. Within 24 hours after any storm event of 0.5 inch or greater.

- I. Final stabilization practices on those portions of the project where land disturbance activities have permanently ceased shall be initiated within fourteen (14) days of the date of cessation of land disturbance activities. Temporary stabilization for those portions of the project where land disturbance has temporarily ceased (e.g., temporary seeding, mulching, etc.) shall be initiated within fourteen (14) days of the date of cessation of land disturbance activities.
- J. **Erosion and Sediment Control prevention measures shall be installed prior to removal of vegetation, grading, and/or stripping of topsoil.** The Contractor is responsible for preparing and submitting the Kentucky Division of Water Notice of Intent and attachments and obtaining state permit approval, if applicable, prior to the beginning of any construction activities.

## 1.02 PERMITS AND NOTIFICATION REQUIREMENTS

- A. The Contractor is responsible to submit a Stormwater Pollution Prevention Plan (SWPPP) for inclusion with permit applications. The Contractor may elect one of the following options to meet this requirement:
  1. Utilize the SWPPP (which includes the Erosion and Sediment Control Plan) provided in the Construction Drawings and prepared by the Owner's Engineer as a basis for an updated SWPPP, and take sole responsibility for updating and implementing the SWPPP, or
  2. Provide a SWPPP, including an Erosion and Sediment Control Plan, prepared by a professional engineer licensed in the Commonwealth of Kentucky, meeting all of the requirements of KYR10, Chapter 11 of the LFUCG Stormwater Manual, and Chapter 16-Article X, Division 5 of the LFUCG Code of Ordinances.
- B. If applicable (i.e., for projects with a disturbed area of one acre or more), the Contractor shall submit a KPDES Notice of Intent specifically for Construction Activities (NOI-SWCA) and receive notification of coverage before beginning any site disturbance, and shall implement erosion, sediment, and pollution control measures as may be required by state, local and federal agencies. Contractor shall submit a signed Notice of Intent form and required attachments to the Division of Water at least seven (7) days prior to beginning of construction activity. **See Article 3.24 in this Section for detailed requirements.**
- C. A Land Disturbance Permit shall be obtained from the Lexington-Fayette Urban County Government Division of Engineering. **See Article 3.25 in this Section for detailed requirements.**
- D. The Contractor shall comply with all additional requirements of LFUCG. It is the Contractor's responsibility to provide evidence to the Owner that all permits, including those associated with construction across or along a stream channel, if applicable, have been obtained prior to initiation of construction. Some permits are obtained during the design phase of the project. Typically, they should be included in the contract documents.

## 1.03 RELATED WORK

- A. Section 02371 – Stormwater Pollution Prevention Plan (SWPPP)
- B. Section 02373 – Stream Restoration

## **PART 2 – PRODUCTS**

### **2.01 MULCH**

- A. Mulch or erosion control blankets / turf reinforcement mats (see Section 2.08) shall be used as a soil stabilization measure for any disturbed area inactive (i.e., not undergoing grading or excavation) for 14 days or longer. Areas requiring stabilization during December through February shall receive only mulch held in place with bituminous material. Mulching, blankets, or mats shall be used whenever permanent or temporary seeding is used. The anchoring of mulch, blankets, and mats shall be in accordance with the Construction Drawings except all mulch placed in December through February shall be anchored with bituminous materials regardless of the slope. Permanent mulches or mats shall be used in conjunction with planting trees, shrubs, and other ground covers that do not provide adequate soil stabilization.
- B. Straw shall come from wheat, rye, or barley and may be spread by hand or machine. Straw shall be anchored. Straw shall be applied at two tons per acre or 90 pounds per 1,000 square feet. Straw shall be free from weeds and coarse matter.
- C. Wood chips are appropriate for areas with less than five percent slopes, and do not require tacking. Wood chips shall be applied at 270 cubic yards per acre or 6 cubic yards per 1,000 square feet and approximately 2 inches deep. Wood chips shall be treated with 20 pounds of nitrogen per acre or shall be treated with 12 pounds slow-release nitrogen per ton to prevent nutrient deficiency in plants.
- D. Bark chips or shredded bark are appropriate for areas with less than five percent slopes, and shall be applied at 70 cubic yards per acre or 1.5 to 2 cubic yards per 1,000 square feet and about one-half inch thick. Bark does not require additional nitrogen fertilizer.
- E. Manufacturer's recommendations shall be followed during application of manufactured wood fiber and recycled paper sold as mulch materials applied in a hydroseeder slurry with binders/tackifiers. Recycled paper (newsprint) or wood fiber shall be mixed at 50 pounds per 100 gallons of water and applied according to manufacturer's recommendations and model of hydroseeder in use.
- F. Liquid mulch binders/tackifiers shall be applied according to manufacturer's recommendations. Chemical soil stabilizers or soil binders/tackifiers/emulsions shall not be used alone. Recommended buffer distances between applied products and waterbodies shall be strictly followed.
- G. Gravel or stone aggregate may be used in relatively small areas when incorporated into an overall landscaping plan. Before the gravel or crushed stone is applied, it shall be washed.

### **2.02 TEMPORARY SEED**

- A. Temporary seeding shall be used for soil stabilization when grades are not ready for permanent seeding, except during December through February. The seed shall be applied within 14 days after grading has stopped. Only rye grain or annual rye grass seed shall be used for temporary seeding.

### **2.03 PERMANENT SEED**

- A. Permanent seeding shall be applied within 14 days after final grade has been reached, except during December through February. Permanent seeding shall also be applied on any areas that will not be disturbed again for a year even if final grades have not been reached. The use of mulch and erosion control blanket or turf reinforcement matting with permanent seeding shall be in accordance with applicable sections of this Specification. "Seed mats"

may be used for permanent seeding in accordance with manufacturers' recommendations.

- B. Permanent seeding shall be used on disturbed areas where permanent, long-lived vegetative cover is needed to stabilize the soil and on rough graded areas that will not be brought to final grade for one year or more.
- C. The area to be seeded shall be protected from excess run-on and runoff as necessary with diversions, grassed waterways, terraces, or sediment ponds.
- D. Contractor shall use the following Permanent Seed Mix, with the following exceptions:
  - a. If a property owner landscaping agreement differs from this specification, the property owner landscaping agreement shall be followed on that property, or
  - b. The Construction Drawings identify a different seed mix.

The Permanent Seed Mix shall consist of the following mix spread at a rate of 12.5 pounds/1,000 square feet:

Common Name	%	lbs per 1,000 sq. ft.
Tall Fescue (turf type)	75	3.75
Annual Rye	15	0.75
Bluegrass	10	0.50
TOTAL	100%	5

- E. Vegetative cover alone shall not be used to provide erosion control cover and prevent soil slippage on a soil that is not stable due to its structure, water movement, or excessive slope.
- F. Permanent seeding may be done at any time except December through February.
- G. Soil material shall be capable of supporting permanent vegetation and have at least 25 percent silt and clay to provide an adequate amount of moisture holding capacity. An excessive amount of sand will not consistently provide sufficient moisture for good growth regardless of other soil factors.
- H. Fertilizer shall be applied at a rate determined by a soil test obtained by the Contractor. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Lime shall be applied at a rate of 100 pounds per 1,000 square feet or two tons per acre of agricultural ground limestone, unless soil test results indicate differently.

## 2.04 SOD

- A. Sod shall be used for disturbed areas that require immediate vegetative cover, *e.g.*, the area surrounding a drop inlet in a grassed waterway, the design flow perimeter of a grassed waterway that will convey flow before vegetation can be established, and the inlet of a culvert. Sod may be installed throughout the year. "Seed mats" and seed with geotextiles may be used in place of sod when done in accordance with manufacturers' recommendations.
- B. Contractor shall use tall fescue sod, unless another species is specified in the Construction Drawings or unless the property owner landscaping agreement differs from this specification.
- C. Sod shall not be used to provide erosion control and prevent soil slippage on a soil that is not stable due to its structure, water movement, or excessive slope.
- D. Sod shall be installed within 48 hours of digging and removal from the field. Sod should not

be used on slopes steeper than 2H:1V. If it is to be mowed, installation should be on slopes no greater than 3H:1V.

- E. Soil material shall be capable of supporting permanent vegetation and shall consist of at least 25 percent silt and clay to provide an adequate amount of moisture holding capacity. An excessive amount of sand will not consistently provide sufficient moisture for the sod regardless of other soil factors.
- F. Fertilizer shall be applied at a rate determined by a soil test obtained by the Contractor. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Lime shall be applied at a rate of 100 pounds per 1,000 square feet or two tons per acre of agricultural ground limestone, unless soil test results indicate differently.
- G. The sod shall consist of strips of live, vigorously growing grasses. The sod shall be free of noxious and secondary noxious weeds and shall be obtained from good, solid, thick-growing stands. The sod shall be cut and transferred to the job in the largest continuous pieces that will hold together and are practical to handle.
- H. The sod shall be cut with smooth clean edges and square ends to facilitate laying and fitting. The sod shall be cut to a uniform thickness of not less than three-fourth inch measured from the crown of the plants to the bottom of the sod strips for all grasses except bluegrass. Bluegrass sod shall be cut to a uniform thickness of not less than one and one-half inches.
- I. The sod shall be mowed to a height of not less than two inches and no more than four inches prior to cutting.
- J. The sod shall be kept moist and covered during hauling and preparation for placement on the sod bed.
- K. Sod shall be kept watered after installation until the project is considered substantially complete.

## **2.05 ROAD/PARKING STABILIZATION**

- A. Gravel or paved material shall be used to stabilize permanent roads or parking areas or roads or parking areas used repeatedly by construction traffic. Stabilization shall be accomplished within 14 days of grading or initiation of use for construction traffic. Unstabilized roads are not acceptable except in instances where the road will be used less than one month.
- B. Road/parking stabilization shall be used wherever roads or parking areas are constructed, whether permanent or temporary, for use by construction traffic.
- C. Stabilization shall be accomplished with a minimum depth of six inches of crushed stone. Stabilized construction roadbeds shall be at least 14 feet wide for one-way traffic and at least 20 feet wide for two-way traffic.
- D. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes shall not exceed 10 percent.
- E. Temporary parking areas shall be located on naturally flat areas to minimize grading. Grades shall be sufficient to provide drainage but shall not exceed 4 percent.
- F. All cuts and fills shall be 2H:1V or flatter.
- G. Drainage ditches shall be provided as needed.
- H. Crushed stone shall be KYTC aggregate No. 2 (1.5 to 3 inches in diameter), or equivalent.

## **2.06 CONSTRUCTION ENTRANCE**

- A. A stabilized construction entrance shall be constructed wherever vehicles are leaving a construction site to enter a public road or at any unpaved entrance/exit location where there is a risk of transporting mud or sediment onto paved roads. A construction entrance shall be constructed at the beginning of the project before construction traffic begins to enter and exit the site.
- B. A stabilized construction entrance shall be constructed of crushed stone a minimum of 6 inches thick laid over geotextile (filter fabric).
- C. The width shall be at least 20 feet. At sites where traffic volume is high, the entrance shall be wide enough for two vehicles to pass safely. The length shall be at least 50 feet, and where practical, shall be extended to 100 feet. The entrance shall be flared where it meets the existing road to provide a turning radius.
- D. Stormwater and wash water runoff from a stabilized construction entrance shall drain to a sediment trap or sediment pond. If conditions on the site are such that the majority of the mud is not removed by the vehicles traveling over the gravel, then the tires of the vehicles shall be washed before entering a public road.
- E. Pipe placed under the entrance to handle runoff shall be protected with a mountable berm.
- F. Dust control shall be provided in accordance with the applicable sections of this Specification.
- G. Crushed stone shall be KYTC aggregate No. 2 (1.5 to 3 inches in diameter), or equivalent.
- H. Geotextile filter fabric shall be KYTC Type III.

## **2.07 DUST CONTROL**

- A. Dust control measures shall be implemented on the site.
- B. Construction activities shall be phased to minimize the total area unstabilized at any given time, thereby reducing erosion due to air and water movement.
- C. Construction roads shall be watered as needed to minimize dust.
- D. Existing trees, shrubs, and ground cover shall be retained as long as possible during the construction. Initial land clearing should be conducted only in those areas to be regraded or where construction is to occur. Areas to be cleared only for new vegetation or landscaping shall be stabilized with seed and mulch immediately following clearing.
- E. Vegetative cover is the most effective means of dust and erosion control, when appropriate. See sections on Temporary Seed, Permanent Seed, Mulch, and Sod of this Specification.
- F. When areas have been regraded and brought to final grade, they shall be stabilized using temporary or permanent seed and mulch or other measures.
- G. Mulch with mulch binders may be used as an interim dust control measure in areas where vegetation may not be appropriate.
- H. See sections on Temporary Seed, Permanent Seed, Sod, Mulch, Road/Parking Stabilization, and Construction Entrance of this Specification.



## 2.08 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS

- A. Mulch netting, erosion control blankets (ECBs), or turf reinforcement matting (TRM) shall be used on sloping areas as indicated in the Construction Drawings. Mats or nets and permanent seeding may be used as an alternate to sod for culvert entrances and grassed waterways when selected and installed in accordance with manufacturer's recommendations. TRMs shall be used at the water line to control toe erosion along stream banks and wave action in wet ponds. Erosion control blankets may be used to stabilize small ditches and swales and on recently planted slopes to protect seedlings until they become established.
- B. Effective ECB and TRM installation shall require firm, continuous contact between the materials and the soil. If there is no contact, the material will not hold the soil and erosion will occur underneath the material.
- C. ECBs or TRMs shall be used in critical areas such as banks along waterways where concentrated flows are expected. Manufacturer's specifications shall be followed.
- D. ECBs, TRMs, and netting shall be suitable for their intended purpose and shall be used as indicated in the Construction Drawings.
- E. The ECB shall have a minimum useful life span of two (2) years. The material shall consist of interlocking, curled wood fibers and be capable of withstanding shear stresses up to 2.25 pounds per square foot and a velocity of nine (9) feet per second. The acceptable ECB shall be Curlex II as manufactured by American Excelsior Company or approved equal.
- F. Product Documentation

The manufacturer shall provide the Engineer or other designated party with the QA/QC certifications for each shipment of ECB/TRM. The certification shall be signed by a responsible party employed by the manufacturer such as the QA/QC Manager, Production Manager, or Technical Services Manager. The QA/QC certifications shall include:

- a. ECB/TRM lot and roll numbers (with corresponding shipping information)
  - b. Manufacturer's test data for raw materials used in the production.
  - c. Manufacturer's test data for finished production.
- G. Product Labeling
    - a. Prior to shipment, the Manufacturer shall affix a label to each roll identifying the following characteristics:
    - b. Product identification information (manufacturer name and address, brand name, product code)
    - c. Lot number and roll number
    - d. Roll length and width
    - e. Total roll weight.
  - H. Packaging
    - 1. The ECB/TRM shall be wound around a cardboard core to facilitate handling. The core is not intended to support the roll for lifting but should be sufficiently strong to prevent collapse during transit.
    - 2. All rolls shall be labeled and bagged in packaging that is resistant to photodegradation by ultraviolet light.
  - I. The Contractor shall furnish the following to the Engineer:
    - 1. Manufacturer's quality assurance/quality control certifications for each shipment to verify

that the materials supplied for the project are in accordance with the requirements of this specification.

2. Manufacturer's warranty covering materials and workmanship.

## **2.09 TEMPORARY DIVERSION DITCH**

- A. Temporary diversion ditches shall be used to collect sediment-laden runoff from disturbed areas and direct it to a sediment pond where applicable. Temporary ditches are those expected to be in use for less than one year. Temporary diversion and/or other ditches require stabilization, with seed, blankets, mats, or mulch.
- B. Temporary diversion ditches shall have stable outlets. The combination of conditions of site, slopes, and soils should be so that the ditch can be maintained throughout its planned life.
- C. Temporary diversion ditches shall not be constructed below high sediment-producing areas unless land treatment practices or structural measures, designed to prevent damaging accumulations of sediment in the channels, are installed with or before the diversion.
- D. A typical diversion cross section consists of a channel and a supporting ridge. In the case of an excavated-type diversion, the natural ground serves as the diversion ridge. Diversion cross sections shall be adapted to the equipment that will be used for their construction and maintenance.
- E. The channel may be parabolic or trapezoidal in shape. V-shaped ditches shall not be constructed.
- F. Diversions shall be located so that water will empty onto an established area such as a stable watercourse, waterway, or structure.
- G. Any high sediment-producing area above a diversion shall be controlled by good land use management or by structural measures to prevent excessive sediment accumulation in the diversion channel.
- H. Temporary diversions above steep slopes or across graded rights-of-way shall have a berm with a minimum top width of 2 feet, side slopes of 2:1 or flatter and a minimum height of 18 inches measured from the channel bottom.
- I. Diversions installed to intercept flow on graded rights-of-way shall be spaced 200 to 300 feet apart.
- J. A level lip spreader shall be used at diversion outlets discharging onto areas already stabilized by vegetation.

## **2.10 LEVEL SPREADER**

- A. Level spreaders shall be constructed at the outlets of temporary diversion ditches if they discharge to landscaped areas. Level spreaders shall also be constructed at outlets of permanent constructed waterways where they terminate on undisturbed areas.
- B. The length of the level spreader shall be constructed as shown on the Construction Drawings.

## 2.11 PERMANENT CONSTRUCTED WATERWAY

- A. Permanent constructed waterways shall be used to divert stormwater runoff from upland undisturbed areas around or away from areas to be disturbed during construction. A waterway expected to be in place for at least one year shall be considered permanent. Permanent waterways shall be lined with sod or permanent seeding and nets, ECBs, or TRMs.

## 2.12 PIPE SLOPE DRAIN

- A. Pipe slope drains shall be used whenever it is necessary to convey water down a steep slope, which is not stabilized or which is prone to erosion, unless a paved ditch (flume) is installed.
- B. Contractor shall use a 10-inch diameter pipe or larger to convey runoff from areas up to one-third acre; 12-inch or larger pipe for up to half-acre drainage areas; and 18-inch pipe for areas up to one acre, unless otherwise specified in the Construction Drawings. Multiple pipes shall be required for large areas, spaced as shown on the Construction Drawings.
- C. The pipe shall be heavy duty flexible tubing designed for this purpose, *e.g.*, non-perforated, corrugated plastic pipe, or specially designed flexible tubing.
- D. A standard flared end section or a standard T-section fitting secured with a watertight fitting shall be used for the inlet.
- E. Extension collars shall be 12-inch long sections of corrugated pipe. All fittings shall be watertight.

## 2.13 IMPACT STILLING BASIN

- A. Impact stilling basins or armoring shall be used at the outlet of culverts and storm sewers with calculated exit velocities greater than 15 feet per second when flowing full.

## 2.14 CHECK DAM

- A. Check dams shall be limited to use in small, open channels that drain 10 acres or less.
- B. Check dams shall not be used in streams.
- C. Check dams can be constructed of stones, coir logs, or wood fiber logs.
- D. If used, check dams shall be constructed prior to the establishment of vegetation.
- E. The maximum height at the center of a check dam shall be three feet above the ground on which the rock is placed.
- F. The center of the portion of the check dam above the flat portion of the channel shall be at least 1 foot lower than the outer edges. The outer edges of the check dam shall extend up the side slopes of the channel to a point 3 feet in elevation above the center portion of the check dam or to the top of the side slopes.
- G. The maximum spacing between rock check dams in a ditch should be such that the toe of the upstream dam is at the same elevation as the top of the next downstream dam.
- H. The spacing of coir and wood fiber check dams is one log every 100 feet for velocities of 5 fps, 50 feet for velocities between 5 and 7.5 fps, and 25 feet for velocities greater than 10 fps,

unless otherwise shown in the Construction Documents.

- I. Stone check dams shall be constructed of KYTC Class II channel lining.
- J. Coir log or wood fiber log check dams shall be constructed of a single log with a diameter of at least 20 inches.

## **2.15 SEDIMENT TRAP**

- A. Sediment traps shall be installed below all disturbed areas of less than 5 acres that do not drain to a sediment pond.
- B. Erosion control practices such as seeding, mulching, sodding, diversion dikes, etc., shall be used in conjunction with sediment traps to reduce the amount of sediment flowing into the trap. The amount of sediment entering a trap can be reduced by the use of stabilized diversion dikes and ditches.
- C. The trap shall not be located in a stream. It shall be located to trap sediment-laden runoff before it enters the stream.
- D. Trap depth shall be at least 2 feet at the inlet and 4 feet at the outlet. Effective trap width shall be at least 10 feet and trap length shall be at least 30 feet. Containment berms of earth or rock may be used. High velocity areas (e.g., overflows) shall be armored with rock, TRMs, or other suitable material.
- E. The Construction Drawings shall indicate the final disposition of the sediment trap after the upstream drainage area is stabilized. The Construction Drawings shall indicate methods for the removal of excess water lying over the sediment, stabilization of the pond site, and the disposal of any excess material.

## **2.16 SEDIMENT POND**

- A. A sediment pond shall be installed at the outlet of a disturbed area of 5 acres or more. The maximum drainage area for a single pond is 100 acres.
- B. Design and construction shall comply with all federal, state, and local laws, ordinances, rules, and regulations regarding dams.
- C. Erosion control practices such as seeding, mulching, sodding, diversion dikes, etc., shall be used in conjunction with sediment ponds to reduce the amount of sediment flowing into the pond.
- D. The pond shall not be located in a stream. It shall be located to trap sediment-laden runoff before it enters the stream.
- E. Contractor shall construct the sediment pond as shown on the Construction Drawings.
- F. Permanent ponds designed for stormwater detention or water quality treatment may serve as temporary sediment ponds if site conditions make the use of these structures desirable. At the time of conversion from a sediment pond to a permanent stormwater management pond, excess sediment shall be cleaned from the pond. If the pond is converted to a water quality basin, the sand in the sand filter outlet shall be replaced with clean sand unless it is shown to be clean.
- G. The Construction Drawings shall indicate the final disposition of the sediment pond after the upstream drainage area is stabilized. The Construction Drawings shall indicate methods for the removal of excess water lying over the sediment, stabilization of the pond site, and the

disposal of any excess material.

- H. Vegetation shall be established upon completion of construction of the embankment, emergency spillway and other areas disturbed by construction.

## 2.17 SILT FENCE

- A. Silt fence shall be installed down-slope of areas to be disturbed prior to clearing and grading. Silt fence shall be situated such that the total area draining to the fence is not greater than one-fourth acre per 100 feet of fence. Silt fence shall be used for storm drain drop inlet protection and around soil stockpiles.
- B. Under no circumstances shall silt fences be constructed in streams or in swales or ditch lines or any area of concentrated flow.
- C. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, and polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

<u>PHYSICAL PROPERTY</u>	<u>REQUIREMENTS</u>
Filtering Efficiency	80% (minimum)
Tensile Strength at 20%	50 pounds/linear inch (minimum)
Flow Rate	0.3 gallons/square foot/minute (minimum)

- D. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0°F to 120°F.
- E. Posts for synthetic fabric silt fences shall be either 2-inch by 2-inch wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. Steel posts shall have projections for fastening wire to them. Posts shall be no more than 6 feet apart.
- F. Wire fence reinforcement for silt fences shall be a minimum of 36 inches in height, a minimum of 14 gauge and shall have a mesh spacing of no greater than 6 inches.

## 2.18 STORM DRAIN INLET PROTECTION

- A. Storm drain inlet protection shall be utilized on drop inlets and curb inlets that receive sediment-laden runoff from disturbed areas.
- B. Storm drain inlet protection shall only be used around drop inlets when the up-slope area draining to the inlet has no other or inadequate sediment control.
- C. The drainage area shall be no greater than 1 acre.
- D. The inlet protection device shall be constructed in a manner that will facilitate cleanout and disposal of trapped sediment and minimize interference with construction activities.
- E. Inlet protection devices shall be constructed in such a manner that any resultant ponding of stormwater will not cause flooding or excessive inconvenience or damage to adjacent areas, roadways, properties, or structures.
- F. Inlet protection devices are low flow filter devices, and as such shall be constructed in such a manner as to allow for higher flows to bypass into the storm drain system to prevent flooding of the roadway or downstream properties.

**2.19 FILTER STRIP**

- A. Filter strips shall be used on each side of permanent constructed channels.
- B. Filter strips shall only be used to remove sediment from overland flow. Filter strips are not effective in removing sediment from concentrated flows.
- C. If vegetative filters are proposed as a sediment control device and they do not already exist, they shall be planted and established prior to initiating land disturbing activities.
- D. The minimum filter strip width shall be 50 feet for streams, wetlands, and sinkholes. The minimum filter strip width shall be ten feet for constructed waterways.
- E. Where a post development floodplain or wet weather conveyance is being protected, filter strips shall be provided on each side. When a wetland or sinkhole is being protected, filter strips shall be provided around the perimeter.
- F. Contractor shall construct the filter strips as shown on the Construction Drawings.
- G. Existing grass or grass/legume mixtures used as filter strips shall be dense and well established, with no bare spots. When establishing new seeding, consideration shall be given to wildlife needs and soil conditions on the site. The following chart provides a list of alternative grass and grass/legume mixtures:

**SEEDING MIXTURE AND SITE SUITABILITY CHART**

<b>Seeding Mixture</b>	<b>Rate lbs/acre</b>	<b>Soil Suitability</b>
Alfalfa <i>Or</i> Red Clover <i>Plus</i> Timothy <i>Or</i> Orchardgrass <i>Or</i> Bromegrass	10  10  4  6  6	Well-Drained
Ladino <i>Plus</i> Timothy <i>Or</i> Orchardgrass <i>Or</i> Bromegrass	0.5  4  6  8	Wet or Well-Drained

**Notes:**

- 1. All seeding shall be in accordance with the seeding sections of this Specification.
- 2. Well-drained sites include sites that are drained with tile as well as naturally well-drained and droughty sites. Wet sites include sites that are excessively wet only a portion of the growing season.

## **2.20 STREAM CROSSING**

- A. Stream crossings shall be used in cases where construction traffic, permanent traffic, or utilities must cross existing post development floodplains. If the drainage area exceeds 1 square mile and a structure is necessary, the structure shall be designed by a professional engineer licensed in Kentucky, and shall be considered a permanent structure. Stream crossings shall be as close to perpendicular to the stream flow as possible.
- B. Temporary stream crossings are applicable to flowing streams with drainage areas less than one square mile. Temporary stream crossings shall be planned to be in service for the shortest practical period of time and to be removed as soon as their function is completed.
- C. All such structures, whether temporary or permanent, are subject to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 Permitting) and the Kentucky Division of Water (401 Certification). No stream crossing shall be installed without first obtaining all applicable local, state, and federal permits.

Where culverts are to be installed, compacted soil or rock shall be used to form the crossing. The depth of soil or rock cover over the culvert shall be equal to one-half the diameter of the culvert or 12 inches, whichever is greater. The sides of the fill shall be protected from erosion using the mulching and seeding erosion control measures specified in this Specification.

- D. All stream crossings shall be constructed in such a manner as to avoid flooding or excessive inconvenience or damage to adjacent areas, roadways, properties, or structures.
- E. When using a culvert crossing, the top of the compacted earth fill shall be covered with at least six inches of KYTC No. 2 stone.
- F. KYTC No. 2 stone shall also be used for the stone pads forming the crossing approaches.

## **2.21 PUMP-AROUND FLOW DIVERSION**

- A. A pump-around flow diversion shall be used to divert flow around construction activities occurring in a stream when those activities are reasonably expected to cause the erosion of sediment or deposition of sediment in the stream.
- B. Check dams to form the diversion shall span the banks of the stream. Maintain 1-foot freeboard (minimum) on the upstream and downstream checks.
- C. Check dams may be constructed of sandbags or may be a water-filled bladder such as an Aqua-Barrier.
- D. The dewatering flow from the work area shall be treated in a sediment-trapping device prior to discharge to the stream.
- E. Sandbags shall be woven polypropylene bags with approximate dimensions of 18-1/2 inches by 28 inches. Contractor shall tie the ends of filled bags closed using either draw strings or wire ties.

## **2.22 CONSTRUCTION DEWATERING**

- A. Sediment-laden water shall be pumped to a dewatering structure before it is discharged.

## **PART 3 – EXECUTION**

### **3.01 GENERAL**

- A. Erosion and sediment control practices shall be consistent with the requirements of Chapter 11 of the LFUCG Stormwater Manual and other state and local regulatory agencies and in any case shall be adequate to minimize erosion of disturbed and/or regraded areas and discharge of sediment from the site.
- B. Contractor is responsible for notifying and obtaining coverage from the Kentucky Division of Water concerning inclusion under the KPDES General Permit for Stormwater Discharges Associated with Construction Activities.
- C. Gravity sewer lines, force mains, and water lines that cross streams shall be constructed by methods that maintain normal stream flow and allow for a dry excavation. Water pumped from the excavation shall be contained and allowed to settle prior to reentering the stream, or filtered through a sediment removal device. Excavation equipment and vehicles shall operate outside of the flowing portion of the stream. Spoil material from the line excavation shall not be allowed to enter the flowing portion of the stream. Clean Water Act Section 401 and 402 requirements enforced by the US Army Corps of Engineers and the Kentucky Division of Water and the provisions of this condition shall apply to all types of utility line stream crossings.
- D. Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access. Effective erosion and sedimentation control measures shall be employed at all times during the project to prevent degradation of Waters of the Commonwealth. Site regrading and reseeding shall be accomplished with 14 days after disturbance.

### **3.02 MULCH**

- A. Seed shall be applied prior to mulching except where seed is to be applied as part of a hydroseeder slurry containing mulch.
- B. Lime and fertilizer (where needed) shall be incorporated and surface roughening accomplished as needed prior to mulching in accordance with applicable sections of this Specification.
- C. Mulch materials shall be spread uniformly by hand or mechanically so the soil surface is covered. During or immediately following application, the mulch shall be anchored or otherwise secured to the ground according to one of the following methods:
  - 1. Mechanical – Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil.
  - 2. Mulch Tackifiers/Nettings/Emulsions – Use according to the manufacturer's recommendations. This is a superior method in areas of water concentration to hold mulch in place.
  - 3. Wood Fiber – Wood fiber hydroseeder slurries may be used to tack straw mulch. This combination treatment is well suited to steep slopes and critical areas, and severe climate conditions.
- D. Mulch shall be anchored using a mulch anchoring tool, a liquid binder/tackifier, or mulch nettings. Nets and mats shall be installed to obtain firm, continuous contact between the material and the soil. Without such contact, the material is useless and erosion occurs.
- E. A mulch anchoring tool is a tractor-drawn implement that is typically used for anchoring straw



and is designed to punch mulch approximately two inches into the soil surface. Machinery shall be operated on the contour and shall not be used on slopes steeper than 3H:1V.

- F. When using liquid mulch binders and tackifiers, application shall be heaviest around edges of areas and at crests of ridges and banks to prevent wind blow. Remainder of area shall have binders/tackifiers spread uniformly in accordance with manufacturer's recommendations.
- G. When using a mulch net, it shall be used in conjunction with an organic mulch and shall be installed immediately after the application and spreading of the mulch
- H. Erosion control blankets and turf reinforcement mats are considered protective mulches and may be used alone on erodible soils and during all times of year. Blankets and mats shall be installed in accordance with manufacturer's recommendations.
- I. Mulched areas shall be inspected at least weekly and after each rainfall of one-half inch or more. When mulch material is found to be loosened or removed, the mulch cover shall be replaced within 48 hours.

### **3.03 TEMPORARY SEED**

- A. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and anchoring.
- B. The needed erosion control practices, such as diversions, temporary waterways for diversion outlets, and sediment ponds, shall be installed prior to seeding.
- C. Prior to seeding, lime and fertilizer (if needed) shall be worked into the soil with a disk harrow, springtooth harrow, or similar tools to a depth of two inches. On sloping areas, the final operation shall be on the contour.
- D. The seed shall be applied uniformly with a cyclone seeder, drill, cultipacker, seeder, or hydroseeder (slurry may include seed and fertilizer) preferably on a firm, moist seedbed. Seed shall be sown no deeper than one-fourth inch to one-half inch.
- E. The seedbed shall be firmed following seeding operations with a cultipacker, roller, or light drag.
- F. On sloping land, seeding operations shall be on the contour wherever possible.
- G. Mulch shall be applied, in the amounts described in the mulch section of this Specification, to protect the soil and provide a better environment for plant growth.
- H. New seed shall have adequate water for growth, through either natural means or irrigation, until plants are firmly established.
- I. Seeded areas shall be inspected at least weekly after planting and after each rainfall of one-half inch or more. Areas requiring additional seed and mulch shall be repaired within 48 hours.
- J. If vegetative cover is not established within 21 days, the area shall be reseeded.

### **3.04 PERMANENT SEED**

- A. During site preparation, topsoil shall be stockpiled for use in establishing permanent vegetation.
- B. The site shall be graded as needed to permit the use of conventional equipment for seedbed

preparation, seeding, mulch application, and anchoring.

- C. The needed erosion control practices, such as diversions, temporary waterways for diversion outlets, and sediment ponds, shall be installed prior to seeding.
- D. Prior to seeding, lime and fertilizer shall be worked into the soil with a disk harrow, springtooth harrow, or similar tools to a depth of four inches. On sloping areas, the final operation shall be on the contour.
- E. Where compacted soils occur, they shall be broken up sufficiently to create a favorable rooting depth of six to eight inches.
- F. The seed shall be applied uniformly with a cyclone seeder, drill, cultipacker, seeder, or hydroseeder (slurry may include seed and fertilizer) preferably on a firm, moist seedbed. Seed shall be sown no deeper than one-fourth inch to one-half inch.
- G. The seedbed shall be firmed following seeding operations with a cultipacker, roller, or light drag.
- H. On sloping land, seeding operations shall be on the contour wherever possible.
- I. Mulch shall be applied, in the amounts described in the mulch section of this Specification, to protect the soil and provide a better environment for plant growth.
- J. New seed shall have adequate water for growth, through either natural means or irrigation, until plants are firmly established.
- K. Seeded areas shall be inspected at least weekly after planting and after each rainfall of 0.5 inches or more. Areas requiring additional seed and mulch shall be repaired within 48 hours.
- L. If vegetative cover is not established (>70%) within 21 days, the area shall be reseeded. If 40 to 70 percent groundcover is established, overseed and fertilize, using half of rates originally applied, and mulch. If less than 40 percent groundcover is established, follow original seedbed preparation methods, seeding and mulching specifications, and apply lime and fertilizer if needed according to soil tests.

### **3.05 SOD**

- A. The area to be sodded shall be protected from excess runoff, as necessary, with appropriate BMPs.
- B. Prior to sodding, the soil surface shall be cleared of all trash, debris, and stones larger than one inch in diameter, and of all roots, brush, wire, and other objects that would interfere with the placing of the sod.
- C. Compacted soils shall be broken up sufficiently to create a favorable rooting depth of six to eight inches.
- D. Lime and fertilizer (if needed) shall be worked into the soil with a disk harrow, springtooth harrow, or other suitable field equipment to a depth of four inches.
- E. After the lime and fertilizer have been applied and just prior to the laying of the sod, the soil in the area to be sodded shall be loosened to a depth of one inch. The soil shall be thoroughly dampened immediately after the sod is laid if it is not already in a moist condition.
- F. No sod shall be placed when the temperature is below 32°F. No frozen sod shall be placed nor shall any sod be placed on frozen soil.

- G. When sod is placed during the periods of June 15 to September 1 or October 15 to March 1, it shall be covered immediately with a uniform layer of straw mulch approximately one-half inch thick or so the green sod is barely visible through the mulch.
- H. Sod shall be carefully placed and pressed together so it will be continuous without any voids between the pieces. Joints between the ends of strips shall be staggered.
- I. On gutter and channel sodding, the sod should be carefully placed on rows or strips at right angles to the centerline of the channel (*i.e.*, at right angles to the direction of flow). The edge of the sod at the outer edges of all gutters shall be sufficiently deep so that surface water will flow over onto the top of the sod.
- J. On steep graded channels, each strip of sod shall be staked with at least two stakes not more than 18 inches apart.
- K. On slopes 3H:1V or steeper, or where drainage into a sod gutter or channel is one-half acre or larger, the sod shall be rolled or tamped and then chicken wire, jute, or other netting shall be pegged over the sod for protection in the critical areas. The netting and sod shall be staked with at least two stakes not more than 18 inches apart. The netting shall be stapled on the side of each stake within two inches of the top of the stake. The stake should then be driven flush with the top of the sod.
- L. When stakes are required, the stakes shall be wood and shall be approximately ½ inch by ¾ inch by 12 inches. They shall be driven flush with the top of the sod with the flat side against the slope and on an angle toward the slope.
- M. Sod shall be tamped or rolled after placing and then watered. Watering shall consist of a thorough soaking of the sod and of the sod bed to a depth of at least 4 inches. The sod should be maintained in a moist condition by watering for a period of 30 days.
- N. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week to maintain moist soil to a depth of 4 inches. Watering shall be done during the heat of the day to prevent wilting. After the first week, sod shall be watered as necessary to maintain adequate moisture content.
- O. The first mowing of sod shall not be attempted until the sod is firmly rooted. No more than one-third of the grass leaf shall be removed by the initial and subsequent cuttings. Grass height shall be maintained between 2 inches and 3 inches.
- P. Where sod does not establish properly, the sod should be replaced immediately. Areas requiring resodding should be prepared in the same manner as the original installation.

### **3.06 ROAD/PARKING STABILIZATION**

- A. The roadbed or parking surface shall be cleared of all vegetation, roots, and other objectionable material.
- B. All roadside ditches, cuts, fills, and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable sections of this Specification.
- C. Geotextile filter fabric shall be applied beneath the stone for additional stability in accordance with fabric manufacturer's specifications.
- D. Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas shall be checked regularly to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures shall be checked once each week to ensure that they do not have

silt or other debris that reduces their effectiveness.

### **3.07 CONSTRUCTION ENTRANCE**

- A. Vegetation, roots, and all other obstructions shall be cleared in preparation for grading. Prior to placing geotextile (filter fabric), the entrance shall be graded and compacted to 80% of standard proctor density.
- B. To reduce maintenance and loss of aggregate, the geotextile shall be placed over the existing ground before placing the stone for the entrance. Stone shall be placed to depth of 6 inches or greater for the entire width and length of the stabilized construction entrance.
- C. If wash racks are used, they shall be installed according to manufacturer's specifications.
- D. The stabilized construction entrance shall be inspected once each week and after there has been a high volume of traffic or a storm event greater than 0.2 inches.
- E. The entrance shall be maintained in a condition that will prevent tracking or flow of sediments onto public rights-of-way. This may require periodic top dressing with additional stone, as conditions demand, and repair and/or cleanout of any structures used to trap sediment.
- F. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains shall be removed immediately.

### **3.08 DUST CONTROL**

- A. See Articles on Temporary Seed, Permanent Seed, Sod, Mulch, Road/Parking Stabilization, and Construction Entrance of this Specification Section.
- B. When construction is active on the site, dust control shall be implemented as needed.
- C. When using tillage as a dust control measure, Contractor shall begin plowing on windward side of area. Chisel-type plows spaced about 12 inches apart, spring-toothed harrow, and similar plows are examples of equipment that may produce the desired effect.
- D. The site shall be observed daily for evidence of windblown dust and reasonable steps shall be taken to reduce dust whenever possible. When construction on a site is inactive for a period, the site shall be inspected at least weekly for evidence of dust emissions or previously windblown sediments. Dust control measures shall be implemented or upgraded if the site inspection shows evidence of wind erosion.

### **3.09 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS**

- A. Blankets and mats shall be installed according to the manufacturer's recommendations. In the event that the manufacturer's recommendations conflict with any requirement of this Specification, the most conservative requirement, in terms of protection of public health and the environment, shall govern.
- B. Placement
  - 1. The blankets and mats shall be unrolled in the direction of surface water flow.
  - 2. When using two blankets or mats side by side, the seams shall not be placed in the center of a channel but shall be offset by a minimum of one (1) foot.

3. Blankets and mats shall be stapled in place using U-shaped staples of the size, and at the prescribed intervals and arrangement, specified by the manufacturer.
  4. When blankets or mats are laid side by side, they shall be stapled so as to anchor the edge of each roll.
  5. The overlap of blankets and mats shall be in accordance with the manufacturer's recommendations.
  6. If blanket/mat is unrolled along (parallel) to the contour installation must begin at the lower elevation and progress up slope with the upper blanket overlapping the lower as with roofing shingles.
- C. Damage Repair
1. The patch material used for the repair of a hole or tear shall be the same type of material as the damaged blanket/mat.
  2. The patch shall extend at least 12 inches beyond any portion of the damaged blanket/mat.
  3. The repair patch shall be stapled in place as per manufacturer's recommendations.

### **3.10 TEMPORARY DIVERSION DITCH**

- A. All dead furrows, ditches or other depressions to be crossed shall be filled before construction begins, or as part of construction, and the earth fill used to fill the depressions shall be compacted using the treads of the construction equipment. All old terraces, fencerows, or other obstructions that will interfere with the successful operation of the diversion shall be removed.
- B. The base for the diversion ridge shall be prepared so that a good bond is obtained between the original ground and the fill material. Vegetation shall be removed and the base shall be thoroughly disked prior to placement of fill.
- C. The earth materials used to construct the earth fill portions of the diversions shall be obtained from the diversion channel or other approved source.
- D. The earth fill materials used to construct diversions shall be compacted by running the construction equipment over the fill in such a manner that the entire surface of the fill will be traversed by not less than one tread track of the equipment.
- E. When an excess of earth material results from cutting the channel cross section and grade, it shall be deposited adjacent to the supporting ridge unless otherwise directed.
- F. The completed diversion shall conform to the cross section and grade shown on the Construction Drawings.
- G. Temporary or permanent seeding and mulch (or blanket/mat) shall be applied to the berm or ditch immediately following its construction. Contractor shall triple-seed areas below the flow line, and shall use erosion control blankets or turf reinforcement mats as needed.
- H. Bare and vegetated diversion channels shall be inspected regularly to check for points of scour or bank failure; rubbish or channel obstruction; rodent holes, breaching, or settling of the ridge; and excessive wear from pedestrian or construction traffic.
- I. Damaged channels or ridges shall be repaired at the time damage is detected. Sediment deposits shall be removed from diversion channels and adjoining vegetative filter strips

regularly.

- J. Diversions shall be reseeded as needed to establish vegetative cover.

### **3.11 LEVEL SPREADER**

- A. The minimum acceptable width shall be 6 feet. The depth of the level spreader as measured from the lip shall be at least 6 inches and the depth shall be uniform across the entire length of the measure.
- B. The grade of the channel for the last 15 feet entering the level spreader shall be less than or equal to 1%.
- C. The level lip of the spreader shall be constructed on zero percent grade to ensure uniform conversion of channel flow to sheet flow.
- D. Level spreaders shall be constructed on undisturbed soil.
- E. The entrance to the spreader shall be graded in a manner to ensure that runoff enters directly onto the zero percent graded channel.
- F. Storm runoff converted to sheet flow shall discharge onto undisturbed areas stabilized with vegetation.
- G. All disturbed areas shall be stabilized immediately after construction is completed in accordance with the mulching and vegetation requirements of this Specification.
- H. The level spreader shall be inspected after each storm event and at least once each week. Any observed damage shall be repaired immediately.

### **3.12 PERMANENT CONSTRUCTED WATERWAY**

- A. All ditches or other depressions to be crossed shall be filled before construction begins or as part of construction, and the earth fill used to fill the depressions shall be compacted using the treads of the construction equipment. All old terraces, fence rows, or other obstructions that will interfere with the successful operation of the channel shall be removed.
- B. The earth materials used to construct the earth fill portions of the channel shall be obtained from the excavated portion of the channel or other approved source.
- C. The earth fill materials used to construct the channel shall be compacted by running the construction equipment over the fill in such a manner that the entire surface of the fill will be traversed by at least one tread track of the equipment.
- D. The completed channel shall conform to the cross section and grade shown on the Construction Drawings.
- E. Channels shall be inspected regularly to check for points of scour or bank failure; rubbish or channel obstruction; rodent holes; breaching; and excessive wear from pedestrian or construction traffic.
- F. Channels shall be repaired at the time damage is detected. Sediment deposits shall be removed from adjoining vegetative filter strips when they are visible.
- G. Channels shall be seeded and mulched as needed to establish vegetative cover. Blankets or mats may be used instead of mulch, according to manufacturer's specifications.

- H. The subgrade of paved channels shall be constructed to the required elevations. All soft sections and unsuitable material shall be removed and replaced with suitable material. The subgrade shall be thoroughly compacted and shaped to a smooth, uniform surface. The subgrade shall be moist when pouring concrete.
- I. Before permanent stabilization of the slope, the structure shall be inspected after each rainfall. Any damages to the paved channel or slope shall be repaired immediately.

### **3.13 PIPE SLOPE DRAIN**

- A. The pipe slope drain shall be placed on undisturbed or well-compacted soil.
- B. Soil around and under the entrance section shall be hand-tamped in 4-inch to 8-inch lifts to the top of the dike to prevent piping failure around the inlet.
- C. Filter fabric shall be placed under the inlet and extended 5 feet in front of the inlet and be keyed in 6 inches on all sides to prevent erosion.
- D. Backfilling around and under the pipe with stable soil material hand compacted in lifts of 4 inches to 8 inches shall be done to ensure firm contact between the pipe and the soil at all points.
- E. The pipe slope drain shall be secured to the slope using stakes at intervals of 10 feet or less.
- F. All slope drain sections shall be securely fastened together and have watertight fittings.
- G. The pipe shall be extended beyond the toe of the slope and discharged at a non-erosive velocity into a stabilized area or to a sediment trap or pond.
- H. The pipe slope drain shall have a minimum slope of 3 percent or steeper.
- I. The height at the centerline of the earth dike shall range from a minimum of 1.0 foot over the pipe to twice the diameter of the pipe measured from the invert of the pipe. It shall also be at least 6 inches higher than the adjoining ridge on either side. At no point along the dike will the elevation of the top of the dike be less than 6 inches higher than the top of the pipe.
- J. All areas disturbed by installation or removal of the pipe slope drain shall be immediately stabilized.
- K. The pipe slope drain shall be inspected after every rainfall and at least weekly. Any necessary repairs shall be made immediately.
- L. Contractor shall check to see that water is not bypassing the inlet and undercutting the inlet or pipe. If necessary, Contractor shall install headwall or sandbags.
- M. Contractor shall check for erosion at the outlet point and shall check the pipe for breaks or clogs. Contractor shall install additional outlet protection if needed and immediately repair the breaks and clean any clogs.
- N. Contractor shall not allow construction traffic to cross the pipe slope drain and shall not place any material on it.
- O. If a sediment trap has been provided, it shall be cleaned out when the sediment level reaches 1/3 the design volume.
- P. The pipe slope drain shall remain in place until the slope has been completely stabilized or up to 30 days after permanent slope stabilization.

### **3.14 IMPACT STILLING BASIN**

- A. Construction specifications for impact stilling basins are provided in the Construction Drawings.

### **3.15 CHECK DAM**

- A. Stone shall be placed by hand or mechanically as necessary to achieve complete coverage of the ditch and to ensure that the center of the dam is at least 1 foot lower than the outer edges. Stone shall also be placed to extend 3 feet in elevation above the center portion of the check dam or to the top of the channel side slopes.
- B. Coir and wood fiber logs shall be laid on the channel bottom.
- C. Check dams shall be removed when their useful life has been completed. In temporary ditches and swales, check dams shall be removed and the ditch filled in when it is no longer needed. In permanent channels, check dams shall be removed when a permanent lining can be installed. In the case of grass-lined ditches, check dams shall be removed when the grass has matured sufficiently to protect the ditch or swale. The area beneath the check dams shall be seeded and mulched or sodded (depending upon velocity) immediately after check dams are removed.
- D. If stone check dams are used in grass-lined channels that will be mowed, care shall be taken to remove all stone from the channel when the dam is removed. This shall include any stone that has washed downstream.
- E. Regular inspections shall be made to ensure that the check dam is in good working order and the center of the dam is lower than the edges. Erosion caused by high flows around the edges of the dam shall be corrected immediately, and the dam shall be extended beyond the repaired area.
- F. Check dams shall be checked for sediment accumulation after each rainfall. Sediment shall be removed before or when it reaches one-third of the original height.
- G. Check dams shall remain in place and operational until the drainage area and channel are completely stabilized, or up to 30 days after the permanent site stabilization is achieved.

### **3.16 SEDIMENT TRAP**

- A. The area to be excavated shall be cleared of all trees, stumps, roots, brush boulders, sod, and debris. All channel banks and sharp breaks shall be sloped to no steeper than 1:1. All topsoil containing excessive amounts of organic matter shall be removed.
- B. Seeding and mulching of the sediment trap berm and any material taken from the excavation shall comply with the applicable soil stabilization sections of this Specification.
- C. Construction specifications for sediment traps are provided in the Construction Drawings.
- D. Any material excavated from the trap shall be placed in one of the following ways so that it will not be washed back into the trap by rainfall:
  - 1. uniformly spread to a depth not exceeding 3 feet and graded to a continuous slope away from the trap
  - 2. uniformly placed or shaped reasonably well with side slopes assuming the natural angle of repose for the excavated material behind a berm width not less than 12 feet.



- E. Sediment shall be removed from the trap when the capacity is reduced to one third of the design volume. Contractor shall follow the methods for disposing of sediment removed from the trap as shown in the Construction Drawings.

### 3.17 SEDIMENT POND

- A. The foundation area shall be cleared of all trees, stumps, roots, brush boulders, sod, and debris. All channel banks and sharp breaks shall be sloped to no steeper than 1:1. All topsoil containing excessive amounts of organic matter shall be removed. The surface of the foundation area shall be thoroughly scarified before placement of the embankment material.
- B. A cutoff trench shall be backfilled with suitable material. The trench shall be kept free of standing water during backfill operations.
- C. The pipe conduit barrel shall be placed on a firm foundation. Selected backfill material shall be placed around the conduit in layers, and each layer shall be compacted to at least the same density as the adjacent embankment. All compaction within 2 feet of the pipe spillway shall be accomplished with hand-operated tamping equipment.
- D. All borrow areas outside the pond and in the drainage area shall be graded and left in such a manner that water will not be ponded.
- E. The material placed in the fill shall be free of all sod, roots, frozen soil, stones more than 6 inches in diameter, and other objectionable material. The placing and spreading of the fill material shall occur in approximately 6-inch horizontal layers or of such thickness that the required compaction can be obtained with the equipment used. Each layer shall be compacted in a way that will result in achieving 95 percent of the maximum standard dry density.
- F. The distribution and gradation of materials throughout the fill shall be such that there will be no lenses, pockets, stakes, or layers of material differing substantially in texture or gradation from the surrounding material. Where it is necessary to use materials of varying texture and gradation, the more impervious material shall be placed in the upstream and center portions of the fill.
- G. The moisture content of fill material shall be such that the required degree of compaction can be obtained with the equipment used.
- H. Fill shall not be placed on frozen, slick, or saturated soil.
- I. The topsoil material saved in the site preparation shall be placed as a top dressing on the surface of the emergency spillways, embankments, and borrow areas. It shall be evenly spread.
- J. A protective cover of herbaceous vegetation shall be established on all exposed surfaces of the embankment, spillway, and borrow areas to the extent practical under prevailing soil and climatic conditions.
- K. Seedbed preparation, seeding, fertilizing, and mulching shall comply with the applicable sections of this Specification.
- L. Any material excavated from the pond shall be placed in one of the following ways so that its weight will not endanger the stability of the side slopes and where it will not be washed back into the pond by rainfall:
  - 1. uniformly spread to a depth not exceeding 3 feet and graded to a continuous slope away from the pond.

2. uniformly placed or shaped reasonably well with side slopes assuming the natural angle of repose for the excavated material behind a berm width not less than 12 feet.
- M. Sediment shall be removed from the pond when the capacity is reduced to one third of the design volume. Contractor shall follow the methods for disposing of sediment removed from the pond as shown in the Construction Drawings.

### **3.18 SILT FENCE**

- A. This Article provides construction specifications for silt fences using synthetic fabric. See the Construction Drawings for additional detail.
- B. Posts shall be spaced a maximum of 6 feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When necessary because of rapid runoff, post spacing shall not exceed 6 feet.
- C. A trench shall be excavated at least 6 inches wide and 6 inches deep along the line of posts and upslope from the barrier.
- D. Where used, the wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy-duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.
- E. The filter fabric shall be stapled or wired to the fence, and 12 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 30 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
- F. At joints, filter fabric shall be lapped with terminating posts with a minimum overlap of 3 feet.
- G. The trench shall be backfilled and soil compacted over the filter fabric.
- H. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
- I. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately. Knocked down fences shall be repaired at the end of each day.
- J. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and if the barrier is still necessary, the fabric shall be replaced promptly.
- K. Sediment deposits shall be removed after each storm event or when deposits reach approximately one-third the height of the barrier.
- L. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded.
- M. Silt fences shall be replaced every 6 months.
- N. Silt fence shall terminate in a "J" hook to prevent bypassing at the end of a row.

### **3.19 STORM DRAIN INLET PROTECTION**

- A. All storm drains receiving sediment-laden flows from disturbed areas shall be protected.

Approved inlet protection methods include net or sand bags filled 2/3 with rock, geotextile filtration products, and Contractor-fabricated structures.

- B. For a silt fence drop inlet protection structure, the following specifications apply:
1. For stakes, Contractor shall use 2 x 4-inch wood (preferred) or equivalent metal with a minimum length of 3 feet.
  2. Stakes shall be evenly spaced around the perimeter of the inlet a maximum of 3 feet apart and securely driven into the ground, approximately 18 inches deep.
  3. To provide needed stability to the installation, Contractor shall frame with 2 x 4-inch wood strips around the crest of the overflow area at a maximum of 1.5 feet above the drop inlet crest and shall brace diagonally.
  4. Contractor shall place the bottom 12 inches of the fabric in a trench and backfill the trench with at least 4 inches of crushed stone or 12 inches of compacted soil.
  5. Contractor shall fasten fabric securely to the stakes and frame. Joints shall be overlapped to the next stake.
- C. For sod drop inlet protection, sod shall be placed to form a turf mat covering the soil for a distance of 4 feet from each side of the inlet structure. Soil preparation and sod placement shall be in accordance with the section entitled Sod.
- D. For gravel curb inlet protection, the following specifications apply:
1. Wire mesh with ½-inch openings shall be placed over the curb inlet opening so that at least 12 inches of wire extends across the concrete gutter from the inlet opening.
  2. KYTC No. 2 Coarse Aggregate shall be piled against the wire so as to anchor it against the gutter and inlet cover and to cover the inlet opening completely.
  3. This type of device shall never be used where overflow may endanger an exposed fill slope. Consideration shall also be given to the possible effects of ponding on traffic movement, nearby structures, working areas, and adjacent property.
- E. For block and gravel curb inlet protection, the following specifications apply:
1. Two concrete blocks shall be placed on their sides abutting the curb at either side of the inlet opening to act as spacer blocks.
  2. A 2-inch by 4-inch stud shall be cut and placed through the outer holes of each spacer block to help keep the front blocks in place.
  3. Concrete blocks shall be placed on their sides across the front of the inlet and abutting the spacer blocks.
  4. Wire mesh shall be placed over the outside of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire with ½-inch openings shall be used.
  5. KYTC No. 2 Coarse Aggregate shall be piled against the wire to the top of the barrier.
- F. For stone-filled corrugated pipe curb inlet protection, the following specifications apply:
1. Two concrete "L" blocks shall be placed on their sides, with one leg fitting into the mouth of the curb opening.
  2. A 6-inch corrugated pipe shall be filled with stone and covered with a filter sock.

3. The stone-filled pipe will be placed in front of the two concrete "L" blocks, and extend a minimum of the width of the curb inlet opening on either side. The total length of the stone filled pipe shall be three times the width of the curb inlet opening.
- G. The inlet protection structure shall be inspected after each rain, and repairs made as needed.
- H. Sediment shall be removed and the device restored to its original dimensions when sediment has accumulated to one-third the design depth of the filter. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- I. If a stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone shall be pulled away from the blocks, cleaned, and replaced.
- J. Structures shall be removed after the area draining to the inlet protection structure has been properly stabilized.

### **3.20 FILTER STRIP**

- A. When planting filter strips, Contractor shall prepare seedbed, incorporate fertilizer based on a soil test, and apply mulch consistent with the seeding sections of this Specification. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Filter strips using areas of existing vegetation shall be over seeded, as necessary, with the specified mixtures to obtain an equivalent density of vegetation. The over seeding shall be accomplished prior to any land disturbing activities.
- B. Filter strips shall be inspected regularly to ensure that a healthy vegetative growth is maintained. Any bare spots or spots where sediment deposition could lead to the destruction of vegetation shall be repaired.
- C. Filter strips shall be fertilized once each year in the fall.
- D. Irrigation shall be used as necessary to maintain the growth of the vegetation in the filter strip.
- E. Sediment shall be removed when it becomes visible in the filter.
- F. Construction traffic shall not be driven on or over filter strips.

### **3.21 STREAM CROSSING**

- A. Clearing and excavation of the streambed and banks shall be kept to a minimum.
- B. The structure shall be removed as soon as it is no longer necessary for project construction.
- C. Upon removal of the structure, the stream shall immediately be reshaped to its original cross section and properly stabilized.
- D. The approaches to the structure shall consist of stone pads with a minimum thickness of 6 inches, a minimum width equal to the width of the structure, and a minimum approach length of 25 feet on each side.
- E. The structure shall be inspected after every rainfall and at least once a week and all damages repaired immediately.

### **3.22 PUMP-AROUND FLOW DIVERSION**

- A. Operations shall be scheduled such that diversion installation, in-stream excavation, in-stream construction, stream restoration, and diversion removal are completed during low-flow conditions and as quickly as possible. Contractor shall not construct in a stream when rainfall is expected during the time excavation will be occurring in the stream.
- B. Check dams shall be installed across the stream during low flow conditions.
- C. Stream flow shall be pumped around the check dams. Outlet protection shall be installed as required at the discharge point.
- D. Contractor shall dewater the work area and pump into a sediment trapping device.
- E. Contractor shall complete construction activities across the stream.
- F. Contractor shall restore the streambed and banks.
- G. Contractor shall remove sandbags and shut down pumping operation. (Salvage sandbags for future use if multiple stream crossings are required on the project.) Contractor shall remove all sandbags from the stream, including damaged and empty bags.
- H. Pumps shall be manned around-the-clock when the pump-around diversion is in the stream.
- I. This control provides short-term diversion of stream flow (typically 1 day to 3 days). Additional sandbags or pumps may be required to maintain 1-foot freeboard on the sandbag checks if flow conditions change.
- J. Contractor shall add sandbags as required to seal leaks in check dams.

### **3.23 CONSTRUCTION DEWATERING**

- A. All dewatering discharges shall pass through a sediment removal device. Contractor shall follow the specifications for sediment traps and basins. The manufacturer's recommendations shall be followed for commercial products.
- B. The dewatering structure shall be inspected frequently to ensure it is functioning properly and not overtopping. Accumulated sediment shall be spread out on site and stabilized or disposed of offsite.

### **3.24 KPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES**

- A. The Contractor is responsible for electronically filing the appropriate state Notice of Intent (NOI-SWCA) letter at least seven (7) days prior to start of construction activity. The Notice of Intent (NOI) is a Kentucky Pollution Discharge Elimination System (KPDES) permit application as provided by the Kentucky Revised Statutes, Chapter 224. This application is required to be submitted for construction projects that disturb one or more acres of land.
- B. The NOI requires the inclusion of the descriptions of (but is not limited to) the following items:
  - 1. Names and designated uses of any receiving waters
  - 2. Anticipated number and locations of discharge points
  - 3. Identification of planned construction in or along a waterbody

- C. A topographic map showing project boundaries, areas to be disturbed, locations of anticipated discharge points and receiving waters is also required to be submitted with the NOI.
- D. If the construction site is near a designated "High Quality/Impaired Waters" or a "Cold Water Aquatic Habitat Waters, Exceptional Waters, Outstanding National/State Resource Waters," additional items and/or individual permits will be required.
- E. The NOI form requires an SIC code. The link to the SIC codes is <http://www.osha.gov/pls/imis/sicsearch.html>. The following are the typical construction SIC codes utilized:
- 1542 – Building Construction, nonresidential, except industrial and warehouses
  - 1623 – Water Main Construction, Sewer Construction
  - 1629 – Water and Wastewater Treatment Plant Construction
  - 1711 – Water Pump Installation
  - 1781 – Drilling Water Wells
- F. The Contractor is responsible for implementing the approved Stormwater Pollution Prevention Plan (SWPPP) prior to commencement of site disturbance. The SWPPP shall include erosion prevention measures and sediment and pollutant control measures which are installed and maintained to minimize discharges of sediments and other pollutants from a 2-year, 24-hour storm event. The SWPPP shall be kept at the site and available for review by LFUCG and state officials.
- G. The Contractor is responsible for the description of procedures to maintain erosion and sediment control measures during the period of construction.
- H. The Contractor is responsible for identifying each Contractor and Subcontractor who will install each SWPPP erosion and sediment control measure.
- I. Each Contractor and Subcontractor shall sign a statement certifying the awareness of the requirements of the SWPPP-related documents. Certification is attached at the end of this section.
- J. The Contractor shall not start land disturbing activities until written permit coverage is obtained from the Kentucky Division of Water.
- K. The inspection by qualified personnel, provided by the Contractor, of the site as follows:
1. at least once every seven (7) calendar days, and
  2. within 24 hours after any storm event of 0.5 inch or greater
- L. The Contractor is responsible for completing and maintaining the required Self-Inspection Forms. A sample is included in this specification Section.
- M. Amendments to the approved SWPPP shall be made and implemented as necessary through the course of the construction project if inspections or investigations by the Contractor's inspector, site staff, or by local, state, or federal officials determine that the existing sediment control measures, erosion control measures, or other site management practices are ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site. All plan amendments shall be noted on the copy of the SWPPP maintained at the project site. Plan amendments that involve engineering design shall be prepared by an engineer licensed in Kentucky.
- N. The Contractor shall submit the Notice of Termination (NOT) form to the Kentucky Division of Water, the LFUCG Division of Water Quality, and the LFUCG Division of Engineering when final stabilization has been achieved on all portions of the site and the erosion/sediment

controls have been removed.

O. All subcontractors shall be required to comply with the requirements of the state permit and the Stormwater Pollution Prevention Plan (SWPPP).

P. Where to submit:

1. Complete KPDES FORM NOI-SW at the following website:  
<https://dep.gateway.ky.gov/eForms/default.aspx?FormID=7>
2. Do not initiate work until receiving approval from the Kentucky Division of Water.
3. A complete copy of the NOI submittal shall also be provided to the following for approval/coverage verification:

Division of Water Quality  
125 Lisle Industrial Avenue, Suite 180  
Lexington, KY 40511

Division of Engineering  
Lexington-Fayette Urban County Government  
101 E. Vine St.  
4<sup>th</sup> Floor  
Lexington, KY 40507

### **3.25 LFUCG Land Disturbance Permit**

A. The Contractor shall obtain a Land Disturbance Permit from the LFUCG Division of Engineering, after the LFUCG Division of Water Quality inspects the installation of the best management practices as required by the Stormwater Pollution Prevention Plan (SWPPP). The site grading plan shall show the original and finish grade contours. The grading plan shall be in conformance with the SWPPP and shall clearly show the initial phase of best management practices to be installed.

B. The Land Disturbance Permit checklist appears on the following page. It can be obtained from:

Division of Engineering  
Lexington-Fayette Urban County Government  
101 E. Vine St.  
4<sup>th</sup> Floor  
Lexington, KY 40507  
(859) 258-3410  
Attn: Land Disturbance Permit Section  
<https://www.lexingtonky.gov/new-development>

C. All excess earthen/rock materials hauled off the site to a location in Fayette County shall be hauled to a site permitted by the Kentucky Division of Water and the LFUCG. The haul site shall be permitted in accordance with these specifications.

**LFUCG Land Disturbance Permit Application & Erosion and Sediment Control Plan Checklist**

v23Feb2018

Permittee (Owner or Contractor):	Date:
Contact Person:	Contact Phone:
Site Address:	Zone:
Contractor Name:	Reg #:
Mailing Address:	Contractor Phone:
	Email:

Permitting Information and ESC Plan Narrative	Yes	No	N/A	Page#	Notes
KY DOW Construction NOI / KYR10 Permit					Required for disturbance ≥ 1 acre
US ACE Section 404 Permit					Required for stream crossings, wetland fills
KY DOW Stream Construction Permit / WQ Certif.					Required for stream crossings / encroachment
FEMA LOMR or CLOMR					If applicable
Project description and purpose					Brief summary
Land cover, soils, percent impervious area					Pre and post construction
Land cover / land use of adjacent property					Can designate on plan sheets
Work schedule with start/end dates					Sequencing, clearing, grading, revegetation
Phasing plan for large projects					25 acre limit on total disturbed area
BMP installation schedule					Can be included on plan sheets (see below)
Inspection and BMP maintenance schedule					Every 7 days, or every 14 days and after 1/2" rain
Material storage, waste & litter pollution prevention					Covered, away from drainage system, etc.
Fueling / vehicle maintenance pollution prevention					Conducted away from drainage system, etc.
Spill prevention, control, and countermeasures					If reportable quantities present at the site
Dust control plan					Consider if neighbors are present
Stabilized site exit inspection plan					For keeping offsite pavement clear of soil/debris
Stabilization plan and schedule for site areas					Seed/mulch/etc. within 14 days of inactivity
<b>ESC Plan Site Map and Drawing Detail (See LFUCG Stormwater Manual for BMP Design and Installation Information)</b>					
Plans stamped by a licensed professional					Required for engineered plan components
Location of the project; property lines					Include small locational map; street address
Limits of construction, disturbed area location/size					Flag off "no disturbance" areas
Topography and drainage patterns (pre and post)					1" = 50 ft; 2 ft contours
Buildings, utilities, paved areas, ditches, culverts					Show stormwater inlets within 100 ft of site
Retention ponds, detention basins, sediment traps					Stabilize immediately after construction
Access and haul roads					Consider dust control where neighbors present
Stabilized exit (50 ft #2 rock pad, shaker rack, etc.)					Must drain to a sediment control BMP
Silt fence or etc. at downslope perimeters					Super silt fence along critical areas
Diversion ditches/berms above disturbed areas					Stabilize immediately after construction
Protection for post-construction BMPs					Keep sediment out of post-construction BMPs
Slope stabilization (seed with mulch/blanket/mat)					See Figure 11-1 in Stormwater Manual
Inlet protection measures					Specify type(s) and location(s)
Outlet erosion protection measures					Specify type(s) and location(s)
Ditch stabilization (sod, or seed with blanket/mat)					Stabilize immediately after construction
Sediment basins (> 5 ac) and traps (< 5 ac)					Stabilize immediately after construction
Dewatering sites and methods					Must use sediment controls
50 ft natural vegetated buffer for all critical areas					Applies to streams, wetlands, sinkholes
Stream crossings					Crossing type, detail; USACE 404 permit req'd
Stockpile areas, equipment storage/fueling areas					Keep away from drainage system if possible
Waste and concrete wash water storage/disposal					Show initial area; can be moved as needed
<b>LFUCG Use Only: Review Date:</b>	<b>Status – In Compliance:</b>			<b>Yes</b>	<b>No</b>
<b>Reviewed By:</b>				<b>Additional Info Needed: Yes No</b>	
<b>Comments / Missing Items:</b>				<b>Department: DOE DWQ DES</b>	



## Kentucky Best Management Practices Plan • Construction Site Inspection Report

<b>Company:</b>	<b>Site:</b>	<b>County:</b>
<b>Site Operator:</b>		<b>Date:</b>
<b>Receiving Water:</b>	<b>Total Site Area (acres):</b>	<b># Disturbed Acres:</b>
<b>Inspector Name:</b>	<b>Inspector Qualifications:</b>	
<b>Inspection Type:</b> Weekly or ½ Inch Rain	<b>Days Since Last Rainfall</b> _____	<b># Inches of Last Rainfall:</b> _____

### Field Inspection Observations

BMP Category	Compliance			Field Indicators for Compliance
	Yes	No	N/A	
Project Operations				Notice of Intent (KPDES permit) and other local/state permits on file BMP Plan on site and available for review Project timing/schedule and activities following BMP Plan Weekly inspection and rain-event reports on BMPs available for review Diversions, silt checks/traps/basins, and silt fences/barriers installed prior to clearing Grading and clearing conducted in phases to minimize exposed soil areas No vegetation removal or operations in stream or sinkhole buffer area (25-50 ft min) Rock pad in place on all construction site exits leading to paved roads No sediment, mud, or rock on paved public roads in project area Dust control if needed when working in residential areas during dry conditions
Drainage Management				Upland runoff diverted around bare soil areas with vegetated/lined ditches/berms Drainage channels exiting the site are lined with grass/blanket/rock and stabilized Discharges from dewatering operations cleaned in silt fence enclosure or other filter No muddy runoff leaving site after rains up to 1½ inches
Erosion Protection				Exposed soil seeded/mulched after 2 weeks if no work is planned for the next 7 days Soils on steep slopes seeded/mulched/blanketed as needed to prevent rutting
Sediment Barriers				Silt fence, rock filter, or other sediment barrier below all bare soil areas on slopes Barrier installed across slope on the contour, trenched in, posts on downhill side Multiple sediment barriers at least 125 ft apart on unseeded slopes steeper than 4:1 J-hook interceptors along silt fence where heavy muddy flows run along fencing No visible undercutting or bypassing or blowout of sediment barrier Accumulated sediment is less than halfway to the top of sediment barrier
Slope Protection				Slopes tracked, disked, or conditioned after final grade is established Slopes seeded, mulched, or blanketed within 21 days, no unmanaged rills or gulying Heavy downslope flows controlled by lined downrain channels or slope drain pipes No muddy runoff from slopes into streams, rivers, lakes, or wetlands
Inlet Protection				Inlet dam/device or filtration unit placed at all inlets receiving muddy flows No visible undercutting, bypassing, or blowout of inlet protection dam or device Accumulated sediment is less than halfway to the top of the inlet protection dam/device
Outlet Protection				High flow discharges have rock or other flow dissipaters of adequate sizing at outlet Culvert outlets show no visible signs of erosion/scour, bank failure, or collapse
Ditch and Channel Stabilization				No unmanaged channel bank erosion or bottom scouring visible within or below site Ditches with slopes more than 3% have check dams spaced as needed, if not grassed Ditch check dams tied in to banks, with center 4" lower than sides, and no bypassing Ditches with slopes of up to 5% are thickly seeded with grass (minimum requirement) Ditches 5% to 15% are lined with thick grass and erosion control blankets as needed Ditches 15% to 33% are lined with thick grass and matting or other approved product Ditches exceeding 33% are paved or lined with rock or other approved product



**Contractor and Subcontractor Certifications**

***SWPPP Files, Updates, and Amendments***

This SWPPP Plan and related documents (e.g., NOI, inspection reports, US ACE permits, etc.) will be kept on file at the construction site by \_\_\_\_\_ (name and title). The SWPPP will be updated by the Owner and/or Site Manager to reflect any and all significant changes in site conditions, selection of BMPs, the presence of any unlisted potential pollutants on site, or changes in the Site Manager, contractor, subcontractors, or other key information. Updates and amendments will be made in writing within 7 days and will be appended to the original BMP Plan and available for review.

***Stormwater Pollution Prevention Plan Certification***

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

I certify under penalty of law that I understand the terms and conditions of the general KPDES permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification.

***Subcontractor Certification***

The subcontractors below certify under penalty of law that they understand the terms and conditions of the general KPDES permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

END OF SECTION

## **SECTION 02371 – STORM WATER POLLUTION PREVENTION PLAN (SWPPP)**

### **PART 1 - GENERAL**

#### **1.01 GENERAL**

- A. The Contract Documents include a SWPPP that has been reviewed by LFUCG Division of Water Quality. This SWPPP shall be used for establishing quantities and a lump sum price for providing the Erosion and Sediment Control Measures. The included SWPPP is largely complete but will require additional information from the Contractor such as concrete washout locations, inlet protection types, etc. prior to being approved by LFUCG Division of Water Quality.
- B. The Contractor may use this SWPPP, with necessary additions, to obtain the required permits, i.e. Land Disturbance Permit. If Contractor chooses to use this SWPPP, the Contractor takes sole responsibility for the content of the SWPPP and the implementation of the SWPPP during construction. If Contractor chooses to use this SWPPP, the Contractor will be required to submit the SWPPP with necessary additions to LFUCG Division of Water Quality for approval.
- C. Contractor may also choose to prepare its own SWPPP and submit to LFUCG Division of Water Quality for approval. No additional payment will be allowed for the Erosion and Sediment Control and conformance with SWPPP pay item.

# Construction Site Stormwater Pollution Prevention and Erosion and Sediment Control Plan

This Erosion and Sediment Control / Stormwater Pollution Prevention Plan (ESC/SWPPP) narrative and the attached plan sheets address requirements of the Kentucky Division of Water's KPDES Construction General Permit and the Lexington-Fayette Urban County Government's Erosion and Sediment Control (ESC) Plan, which is required by ordinance for certain projects and required to obtain an LFUCG Grading Permit.

**Plan Preparer:** Michael Jacobs, P.E. 859.223.3999, mjacobs@grwinc.com

**Date:** December 4, 2020      **LFUCG Checklist and KY DOW NOI Attached:** Yes X No: \_\_\_

## 1. CONTACT INFORMATION AND SITE DESCRIPTION

### Project Name and Location

Wolf Run Trunk Sewers D (WRD) & E (WRE) Wastewater System Improvements  
Lexington, KY 40504

### Site Owner Name and Contact Information

Lexington-Fayette Urban County Government  
125 Lisle Industrial Ave., Suite 180  
Lexington, KY 40511  
859.425.2400

### Construction Site ESC/SWPPP Plan Manager and Contact Information (ALL ITEMS IN 'RED' TO BE FILLED OUT BY CONTRACTOR)

(Name) \_\_\_\_\_, General Contractor  
(Business Name) \_\_\_\_\_  
(Address 1) \_\_\_\_\_  
(Address 2) \_\_\_\_\_  
(Phone No.) \_\_\_\_\_  
(Email) \_\_\_\_\_

### Project Start and End Dates

Start: \_\_\_\_\_  
End: \_\_\_\_\_

### Description – Existing Site Conditions, Purpose, and Types of Soil Disturbing Activities

In accordance with Section VII, paragraph G of the Consent Decree, DWQ has prepared and submitted to the Environmental Protection Agency (EPA) and the Kentucky Division of Water (DOW) its Remedial Measures Plan (RMP), Groups 1, 2, and 3. The Group 1 RMP calls for construction of WRD and WRE. Both WRD and WRE span adjacent to the Wolf Run Creek corridor across recreational parks, school grounds, residential areas, open grasslands, and some wooded patches. Wolf Run Creek is considered an impaired water body, according to the Kentucky Division of Water, but no major impact will be made to the body of water. No threatened or endangered species or historical sites were found on throughout the corridor. Wolf Run, a third order stream, originates in central Fayette County and flows northwest to discharge into Town Branch 9.2 miles upstream from its confluence with South Elkhorn Creek. Wolf Run's mainstem is 4.4 miles long and drains an area of 10.2 mi<sup>2</sup>. The average gradient is 20 feet/mile. Elevations for Wolf Run range from 950 ft above msl in the headwaters to 860 ft above msl at its confluence with Town Branch. A majority of disturbed soils will consist of McAfee (MrD2) and Lanton (La) rocky silty clay loams. This project will consist of a mixture of dig-and-replace and open-cut construction for the new trunk sewers. Soil disturbing activities will include: clearing and grubbing; installing a stabilized construction entrance, installing downgradient silt fence and other erosion and sediment controls; grading; excavation for the gravity sewer, utilities, and all appurtenant structures; roads, parking areas, and preparation for final seeding and landscaping.

**Runoff Coefficient**

Current Runoff Coefficient = 0.6; Final Runoff Coefficient = 0.6

**Site Area and Disturbed Acreage**

The new Wolf Run trunk sewers D&E span across a corridor spanning approximately 7 acres, all of which will be disturbed by construction activities.

**Sequence of Major Activities**

<b>Construction Activity</b>	<b>Schedule Considerations</b>
Work crew orientation	Pre-project briefing to review permits, plans, schedule, and staffing.
Construction access – install entrance to site, initial construction routes, initial areas designated for vehicle parking	This is the first land-disturbing activity. Minimal clearing/grading will be done to install stabilized #2 rock site exit with geotextile underliner, at least 50 ft long. Downgradient silt fences will be installed below areas to be cleared, grubbed, graded, or cut/filled. Do-not-disturb areas will be marked off.
Sediment traps and barriers – basins, traps, sediment fences, outlet protection	ID locations and install temporary sediment traps as needed to intercept flow. Build basins prior to upgradient work where possible, and seed/mulch/blanket slopes immediately. Relocate and reinstall silt fences as necessary prior to upgradient work. Maintain and remove sediment as necessary.
Runoff and run-on controls – diversion ditches or berms, perimeter dikes	Install controls as needed to divert clean flows around or through site. Key practices will be installed after the installation of principal sediment traps and before land grading. Additional runoff control measures may be installed during grading.
Land clearing and grading— site preparation (cutting, filling, and grading, sediment traps, barriers, diversions, drains, surface roughening)	Major clearing and grading will begin after installation of principal sediment and runoff control measures, and additional control measures will be installed as grading continues. Borrow and disposal areas will be cleared as needed. Trees and buffer areas around streams, sinkholes, and other protected areas will be marked for preservation.
Runoff conveyance system - storm drains, channels, inlet and outlet protection, slope drains	Inlet and outlet protection measures will be installed as needed. Drainage ditches will be stabilized immediately with sod or seed with erosion control blanket. Slope drains will be installed as indicated on site drawings. A minimum 25 ft vegetated buffer will be maintained around all streams and sinkholes.
Surface stabilization— temporary and permanent seeding, mulching, sodding, riprap	All disturbed areas will be graded and stabilized as soon as possible. Stabilization will begin within 14 days on areas of the site where construction has permanently or temporarily ceased. Temporary and permanent stabilization will comply with the Stormwater Manual. Erosion control blankets and turf reinforcement mats will be used on slopes in accordance with the Stormwater Manual.
Building construction— buildings, utilities, paving	During construction, erosion and sedimentation control measures will be installed as needed, such as construction entrances and downgradient silt fences and sediment traps. Areas at final grade not in the immediate construction area will be seeded/mulched as soon as possible.
Landscaping and final	This is the last construction phase. All remaining disturbed areas will

stabilization—topsoiling, trees and shrubs, permanent seeding, mulching, sodding.

be stabilized, including borrow and spoil areas. Temporary control structures will be removed and the area will be seeded and mulched.

## 2. SITE DESCRIPTION, MAPS, AND DRAWINGS

### (REFERENCE CONTRACT DOCUMENTS: SHTS SW-01 – SW-04)

#### Site Plan Showing Pre/Post Construction Topography, Construction, Drainage Features, and all BMPs Name of Receiving Waters

The entire corridor will drain into Wolf Run Creek. WRD and WRE run parallel to Wolf Run Creek for the entire project.

#### TMDLs and Pollutants of Concern in Receiving Waters

**Table 1 - Impaired Streams in Fayette County**  
(see <http://www.water.ky.gov/sw/swmonitor/305b/> for additional information)

WATERBODY & SEGMENT	TOTAL LENGTH (MILES)	CAUSES
Baughman Fork 0.0 to 2.7	2.7	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Organic Enrichment (Sewage) Biological Indicators</li> </ul>
Boone Creek 7.4 to 12.6	5.2	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Fecal Coliform</li> </ul>
Cane Run 3.0 to 9.6	6.6	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Sedimentation/Siltation,</li> <li>• Fecal Coliform</li> </ul>
Cane Run 9.6 to 17.4	7.8	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Organic Enrichment (Sewage) Biological Indicators,</li> <li>• Fecal Coliform</li> </ul>
East Hickman Creek 4.2 to 10.2	6.0	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Fecal Coliform</li> </ul>
East Hickman Creek 12.6 to 14.0	1.4	<ul style="list-style-type: none"> <li>• Fecal Coliform</li> </ul>
N. Elkhorn Creek 66.0 to 73.75	7.8	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Organic Enrichment (Sewage) Biological Indicators,</li> <li>• Fecal Coliform,</li> <li>• Sedimentation/Siltation</li> </ul>
S. Elkhorn Creek 34.5 to 52.7	18.2	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Organic Enrichment (Sewage) Biological Indicators,</li> <li>• Sedimentation/Siltation,</li> <li>• Total Dissolved Solids,</li> <li>• Chlorine</li> </ul>
Town Branch 0.0 to 9.2	9.2	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Organic Enrichment (Sewage) Biological Indicators,</li> <li>• Fecal Coliform</li> </ul>
Town Branch 9.2 to 10.6	1.4	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Organic Enrichment (Sewage) Biological Indicators,</li> <li>• Fecal Coliform</li> </ul>
Town Branch 10.6 to 12.1	1.5	<ul style="list-style-type: none"> <li>• Impairment Unknown</li> </ul>
UT to Baughman Fork 0.0 to 1.1	1.1	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Organic Enrichment (Sewage) Biological Indicators</li> </ul>
UT to N. Elkhorn Creek 0.0 to 5.6	5.6	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Total Dissolved Solids,</li> <li>• Sedimentation/Siltation</li> </ul>
Wolf Run 0.0 to 4.1	4.1	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Fecal Coliform</li> </ul>
West Hickman Creek 3.0 to 8.6	5.6	<ul style="list-style-type: none"> <li>• Nutrient/Eutrophication Biological Indicators,</li> <li>• Organic Enrichment (Sewage) Biological Indicators,</li> <li>• Sedimentation/Siltation</li> </ul>

Wolf Run Creek is listed as one of the Kentucky impaired waters; Wolf Run's Assessment Summary and Final TDMLs can be seen below. No threatened and endangered species are present in Wolf Run Creek downstream from the project.

### Assessment Summary

**Wolf Run 0.0 to 4.3**  
**KY507029\_01**

**Mouth to Headwaters (Created UT)**





**Fayette County, Kentucky River Basin**

**HUC 05100205**

**Assessment Date: 1/21/2016**



This part of the stream does not support aquatic life, partially supports swimming (Primary Contact Recreation), partially supports fishing/wading/boating (Secondary Contact Recreation).

Use	Cause of Impairment	Suspected Source(s) of Impairment	Basis for Listing	Data Collection and Analysis Methods <sup>1,2,3</sup>
 (5-NS)	Nutrient/Eutrophication Biological Indicators	Channelization, Loss of Riparian Habitat, Unspecified Urban Stormwater, Urban Runoff/Storm Sewers	Problems associated with nutrient enrichment are evident in water quality conditions and/or the aquatic community	Biological Monitoring, Habitat Assessment, Monitoring Data Collected by Other Agencies or Organizations, Physical/Chemical Monitoring
 (5-NS)	Specific Conductance	Channelization, Unspecified Urban Stormwater, Urban Runoff/Storm Sewers, Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Elevated dissolved substances are negatively affecting the aquatic community	Biological Monitoring, Habitat Assessment, Monitoring Data Collected by Other Agencies or Organizations, Physical/Chemical Monitoring
 (4A-PS)	Escherichia coli (TMDL exists for this cause)	Loss of Riparian Habitat, Non-Point Source, Urban Runoff/Storm Sewers, Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Concentrations exceeded the water quality standard	Monitoring Data Collected by Other Agencies or Organizations, Pathogen Monitoring
 (4A-PS)	Fecal Coliform (TMDL exists for this cause)	Loss of Riparian Habitat, Non-Point Source, Urban Runoff/Storm Sewers, Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Concentrations exceeded the water quality standard	Monitoring Data Collected by Other Agencies or Organizations, Monitoring data more than 5 years old, Pathogen Monitoring

<sup>1</sup> Data locations: Physical/chemical monitoring data and pathogen data can be found on the EPA Water Quality Portal; chemical monitoring data for regulated facilities (e.g. wastewater and drinking water) can be found in the EPA ECHO database (online); biological monitoring summary scores and habitat assessment scores can be found in the EPA STORET database (online); and raw community species data and fish tissue analysis data are available on request through KDOW Open Records (expected in STORET 2015).

<sup>2</sup> Data Source(s): KDOW NPS, LFWCG

<sup>3</sup> Data Collection Date(s): 5/25/2011 - 2/17/2012

KDOW cannot ensure that this information is accurate, current, or complete. The information provided in this document is for informational purposes only, is subject to revision or correction at anytime and cannot be relied upon for regulatory or other purposes. This is not an official document. For questions or comments contact KDOW at water@ky.gov or 502-564-3410



**Table 5.22 Final Total Maximum Daily Loads for Each Impaired Segment**

Waterbody (River Mile)	Final TMDL <sup>(1)</sup> (fecal coliform colonies/ day)	Margin of Safety (fecal coliform colonies/ day)	SWS-WLA <sup>(2)</sup> (fecal coliform colonies/day)	Future Growth- WLA, (fecal coliform colonies/ day)	MS4 Permittee <sup>(3)</sup>	Final (2001 NLCD) MS4- WLA <sup>(3)</sup> (fecal coliform colonies/ day)	Final LA (fecal coliform colonies/ day)
South Elkhorn Creek (34.5-52.7)	2.05E+13	Implicit	3.83E+08	8.20E+11	Lexington/ Jessamine County/ University of Kentucky/ KYTC	6.44E+10	1.96E+13
Steeles Run (0.0-5.1)	3.17E+12	Implicit	0	3.17E+10	Lexington/ KYTC	4.42E+08	3.14E+12
Town Branch Creek (0.0-9.2)	7.85E+12	Implicit	0	2.36E+11	Lexington/ KYTC	1.09E+10	7.60E+12
Town Branch Creek (9.2-10.8)	3.20E+11	Implicit	2.27E+11	4.65E+09	Lexington/ KYTC	2.17E+09	8.62E+10
Town Branch Creek (10.8-12.1)	3.92E+09	Implicit	0	1.96E+08	Lexington/ University of Kentucky/ KYTC	3.60E+09	1.27E+08
Wolf Run Creek (0.0-4.4)	8.55E+11	Implicit	0	4.28E+10	Lexington/ University of Kentucky/ KYTC	3.20E+10	7.80E+11

\*<https://eec.ky.gov/Environmental-Protection/Water/Protection/TMDL/Approved%20TMDLs/TMDL-SouthElkhornCreekBacteria.pdf>

**Potential Sources of Pollutants**

Sediment from land clearing and grading; concrete washout water; paint wash water; oil/fuel/grease from equipment; sanitary waste; trash/debris.

**3. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES**

All erosion, sediment, stormwater, and housekeeping practices will be consistent with the LFUCG Stormwater Manual and KY Division of Water field and technical guidance, at a minimum.

**Limits of Disturbance and Project Phasing**

Without exception, no more than 25 acres will be disturbed at any one time. If 25 acres of disturbed area exist on the site, no new disturbed areas will be created until previously disturbed areas are temporarily or

permanently stabilized on an acre-for-acre basis. Land disturbance activities will be phased to minimize the amount of soil exposed and the length of exposure time. The overall objective will be to achieve final grades as quickly as possible, and to stabilize all areas with seed, mulch or blankets/mats within 14 days after final grade is achieved, or after grading work is suspended on that portion of the site.

### **Stabilization Practices**

*Temporary Stabilization* – Top soil stockpiles and disturbed portions of the site where construction activity stops for 14 days or more will be stabilized with temporary seed or straw mulch no later than 14 days from the last construction activity in that area (portion) of the site. Seeding rates will be consistent with the KY EPSC Field Guide. Lime and fertilizer will be applied only when indicated by a soil test. After seeding, each area shall be covered by erosion blanket or mulched with at least two tons/acre of blown or hand-scattered straw. The straw will be netted down or crimped into place by a disk harrow with the blades set straight. Slopes will be covered with blankets or mats consistent with the LFUCG Stormwater Manual. Areas of the site which are to be paved will be temporarily stabilized by applying geotextile and stone sub-base until bituminous pavement can be applied. Dust will be controlled as needed in dry weather.

*Permanent Stabilization* – Disturbed portions of the site where construction activities are completed will be stabilized with permanent seed no later than 14 days after completion of grading in that area. Seed and mulch will be applied consistent with the KY EPSC Field Guide. Lime and fertilizer will be applied only if needed. After seeding, each area will be mulched with 4,000 pounds per acre of straw. The straw mulch will be netted down or crimped into place by a disk harrow with blades set straight. Slopes will be covered with erosion control blankets or turf reinforcement mats consistent with the LFUCG Stormwater Manual. Ditches will be triple-seeded and lined with erosion control blanket or turf reinforcement matting.

### **Structural Practices**

*Earthen Berm* – will be constructed along the uphill perimeter (north) of the site. This berm will divert clean run-on water around the construction site. Another berm on the east side will collect runoff from the disturbed area and direct the runoff to the sediment basin. Berms will be seeded and mulched immediately after construction. Erosion control blankets will be used on top of seed in berm ditches with slopes of 5-10 percent. Turf reinforcement mats will be used in berm ditches with slopes exceeding 10 percent. Blankets or mats will be used on slopes in accordance with the LFUCG Stormwater Manual.

*Sediment Traps* – will be sited and constructed as needed, according to the attached drawings and through field adaptations to changing grades and emergence of gullies that need to be controlled. Traps will consist of rock or rock bag berms across concentrated flow areas and be designed to intercept, detain, and settle out these flows. Traps installed as field adaptations will be logged on the erosion control plan sheets.

*Sediment Basin* – will be constructed at the common drainage location on the south side of the construction site. The basin will be formed by constructing an embankment across an existing gully and excavating a storage pond with a volume of 134 cubic yards for each upgradient disturbed acre. The basin will drain through a perforated corrugated metal riser and outlet pipe to a riprap outlet apron. The riser will have ½ inch holes 3-6 inches apart, with no large holes or slots in the lower two-thirds of the riser. Sediment will be removed before the basin is half full. Also, once construction activities are nearly complete, the accumulated sediment will be removed from the basin. The sediment basin and surrounding area will be seeded and mulched immediately after construction. Blankets or mats will be used on slopes in accordance with the Stormwater Manual. Basin outlet will be protected with a rock berm during construction, to pond up and detain incoming flow.

*Inlet Protection Measures* – will be used to detain, pond, and settle (or filter) out sheet and concentrated flows moving toward curb, drop, or other inlets. Inlet protection structures will consist of rock bags, #2 rock berms, trenched in silt fence on framing, or commercial devices.

*Outlet Protection Measures* – will be used where culverts discharge to ditches or channels, and consist of turf reinforcement matting over triple seeding, erosion control blanket over triple seeding, or channel lining, depending on the scour flows and consistent with the Kentucky Division of Water's BMP Technical Specifications Manual.

*Ditch Check Dams* – will be installed as needed to control ditch downcutting, trap sediment, and stabilize ditches. Check dam installation will be consistent with the Kentucky Erosion Protection and Sediment Control Field Guide and BMP Technical Specifications Manual.

#### **Site Runoff Management**

Sediment will be prevented from leaving the site to the maximum extent practicable. Storm water drainage will be provided mostly by grassed swales, with sheet runoff from parking lots and building drains leading to a permanent stormwater pond on the south side of the site. The pond will be modified for sediment retention during the construction phase. Runoff will be diverted onto undisturbed vegetated areas and revegetated areas where possible for infiltration. Landscaped areas with no buildings or roads will be brought to grade and planted/seeded/mulched within 14 days. Two acres of the site, along existing drainage areas and some slopes, will be flagged off-limits to equipment and remain in its current natural state. When construction is complete the entire site will drain to the south side detention basin (the detention basin will be in the location of the temporary sediment basin). The areas on the sides of the basin will be seeded and mulched after construction. The detention pond is designed with a permanent pool volume of 1,333 cubic yards. This is equivalent to one inch of runoff for the drainage area. It is expected that this detention pond design will remove 80 percent removal of total suspended solids in the site runoff. The pond has been designed by a professional engineer to keep peak flow rates from the two and ten year 24-hour storms at pre-development rates. The outlet of the detention basin will be stabilized by a riprap apron. The inlet will be modified during construction by installation of a 3 ft high rock berm around the inlet to increase detention time and sediment removal. The berm will be removed after the entire site is stabilized.

### **4. OTHER CONTROL MEASURES**

#### **Offsite Vehicle Tracking**

A stabilized #2 and larger rock construction exit with geotextile underliner will be installed to help reduce vehicle tracking of sediments at all exits onto paved roads. The stabilized exit will be 100 ft where possible, and at least 50 ft in length. The paved street adjacent to the site entrance will be swept/cleaned daily if necessary to remove any excess mud, dirt, or rock tracked from the site. The rock exit will be grubbed lightly or otherwise maintained as needed to clear (shake down) dry mud. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

#### **Streams and Wetlands**

A 50 ft natural vegetated buffer will be maintained adjacent to the top-of-bank at all streams, wetlands, and springs. Any work within the buffer will be completed as soon as possible and stabilized within 24 hours.

#### **Waste Disposal**

*Waste Materials* – All waste materials that may leach pollutants (paint and paint containers, caulk tubes, oil/grease containers, liquids of any kind, soluble materials, etc.) will be collected and stored in a covered metal dumpster rented from an approved licensed solid waste management company in Lexington. The dumpster will meet all Lexington and state solid waste management regulations. Construction debris and other wastes that do not leach pollutants will be recycled or deposited in a covered or open-topped dumpster. The dumpster will be emptied when full, and the contents will be hauled to an approved site. No construction waste materials will be buried onsite. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer and \_\_\_\_\_, the individual who manages the day-to-day site operations, will be responsible for seeing that these procedures are followed.

*Hazardous Waste* – All waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. Site personnel will be instructed in these practices by \_\_\_\_\_ will be responsible for seeing that these practices are followed

*Sanitary Waste* – Portable toilets will be used on site for sanitary wastes. All sanitary waste will be collected from the portable units as needed to prevent excessive odors and overflows by the TIDEE

Company, a licensed Lexington sanitary waste management contractor, as required by local regulation. Portable units will be placed away from storm drain inlets, ditches, creeks, and other water bodies

### **Timing of Control Measures**

As indicated in the Sequence of Major Activities, the stabilized construction exit, earthen diversion berm, silt fences / sediment barriers, and sediment basin will be constructed prior to clearing or grading of any other portions of the site. Sediment traps will be constructed as needed in areas where gullying occurs. Ditches will be built and triple seeded/mulched (or blanketed) after construction. Areas where construction activity temporarily ceases for more than 14 days will be stabilized with temporary seed and/or mulch within 14 days of the last disturbance. Once construction activity ceases permanently in an area, that area will be seeded and mulched within 14 days. Temporary controls in permanently stabilized areas, such as silt fences, sediment barriers, ditch checks, temporary sediment traps, etc., will be removed. Controls will remain in place until all vegetation is established and ditches are stable.

## **5. OTHER STATE AND LOCAL PLANS**

### **Certification of Compliance with Federal, State, and Local Regulations**

This Stormwater Pollution Prevention Plan reflects Kentucky Division of Water and LFUCG requirements for stormwater management and erosion and sediment control, as established in LFUCG ordinances. To ensure compliance, this plan was prepared in accordance with the Kentucky BMP Planning and Technical Specifications Manual published by KY DOW and KY DOC and the LFUCG Stormwater Manual. There are no other local, state, or federal permits (e.g., Clean Water Act Section 404 dredge/fill permit, KY DOW Section 401 Water Quality Certification, KY DOW Floodplain Permit, etc.) needed for this project.

## **6. MAINTENANCE PROCEDURES**

### **Stormwater, Erosion, and Sediment Control Maintenance Practices**

Maintenance of all BMPs at the site will be handled by \_\_\_\_\_, who has been trained on construction site BMPs at workshops sponsored by the KY DOW and the Kentucky Erosion Protection and Sediment Control (KEPSC) Program. Other workers on-site will be trained in BMP installation, maintenance, and good housekeeping by \_\_\_\_\_. These are the inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- Less than ½ of the site or 5 acres, whichever is less, will be cleared of vegetation at one time; areas at final grade will be seeded and mulched within 14 days.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported. This information will be logged on the ESC/SWPPP Plan.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts. Bypasses will be repaired immediately.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- The sediment basin will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 30 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.

## **7. INSPECTION PROCEDURES**

### **Stormwater, Erosion, and Sediment Control Inspection Practices**

Inspection of all BMPs at the site will be handled by \_\_\_\_\_ who has been trained on inspecting construction site BMPs at workshops sponsored by the KY DOW and the Kentucky Erosion Protection and Sediment Control (KEPSC) Program.

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by \_\_\_\_\_ who has been trained by the KY DOW and KEPSC. \_\_\_\_\_ will train three people who will be responsible for assisting in the inspections and installing, maintaining, and repairing the controls on the site.
- Inspection reports will be written, signed, dated, and kept on file for two years.

## 8. NON-STORMWATER DISCHARGES

It is expected that the following non-storm water discharges will occur from the site during the construction period:

- Water from water line flushings.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater and rain water (from dewatering during excavation).

All non-storm water discharges will be directed to a sediment basin, filter bag, or filter fence enclosure in a flat vegetated infiltration area prior to discharge, to remove sediment and other contaminants.

**The materials or substances listed below are expected to be present onsite during construction:**

- |                             |                                      |
|-----------------------------|--------------------------------------|
| • Concrete                  | • Petroleum Based Products           |
| • Detergents                | • Cleaning Solvents                  |
| • Paints (enamel and latex) | • Wood                               |
| • Metal Studs               | • Masonry Block                      |
| • Tar                       | • Roofing Shingles                   |
| • Fertilizers               | • Concrete, paint, stucco wash water |

### Spill Prevention and Material Management Practices

The following material management practices will be used to reduce the risk of spills or other accidental exposure of materials and substances to exposure to the weather and/or runoff.

### Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job
- Products and materials will be stored away from the surface drainage system.
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure
- Products will be kept in their original containers with the original manufacturer's label
- Substances will not be mixed with one another unless recommended by the manufacturer
- Whenever possible, all of the product will be used up before disposing of the container
- Manufacturers' recommendations for proper use and disposal will be followed
- The site superintendent will inspect daily to ensure proper used and disposal of materials onsite.
- Dust will be controlled by water sprayed from a tanker truck as needed during dry weather.

### Hazardous Products

These practices will be used to reduce the risks associated with any and all hazardous materials.

- Products will be kept in original containers unless they are not resealable.
- Original labels and material safety data sheets (MSDS) will be reviewed and retained.
- If surplus product must be disposed of, manufacturers' or state/local recommended methods for proper disposal will be followed.

### Petroleum Products

All onsite vehicles will be fueled and maintained off-site, monitored for leaks, and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products stored onsite (oil, gas for

tamp and pump) will be stored in tightly sealed containers, which are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

#### **Fertilizers**

If used, fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be covered with mulch or blankets or worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

#### **Paints**

All containers will be tightly sealed and stored indoors or under roof when not being used. Excess paint or paint wash water will not be discharged to the drainage or storm sewer system but will be properly disposed of according to manufacturers' instructions or state and local regulations.

#### **Concrete Truck Washout**

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a constructed wash basin lined with plastic sheeting will be installed away from ditches to receive the wash water. Washout locations are indicated on the attached drawings. Washouts will be constructed and maintained in accordance with the LFUCG Stormwater Manual.

#### **Spill Control Practices**

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include but not limited to brooms, dust pans, mops, rags, gloves, kitty litter, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- \_\_\_\_\_, the site superintendent responsible for the day-to-day site operations, will be the spill prevention and cleanup coordinator. He will designate at least three other people onsite to receive spill prevention/cleanup training and assist in cleanups. Their names will be posted in the material storage area and in the office trailer outside.

## **9. CONTRACTOR AND SUBCONTRACTOR CERTIFICATIONS**

#### **ESC/SWPPP Files, Updates, and Amendments**

This ESC/SWPPP Plan and related documents (e.g., NOI, inspection reports, US ACE permits, etc.) will be kept on file at the construction site by \_\_\_\_\_, the Site Manager. The ESC/SWPPP will be updated by the Owner and/or Site Manager to reflect any and all significant changes in site conditions, selection of BMPs, the presence of any unlisted potential pollutants on site, or changes in the Site Manager, contractor, subcontractors, or other key information. Updates and amendments will be made in writing within 7 days and will be appended to the original plan and available for review.

#### **Stormwater Pollution Prevention Plan Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
(Name) \_\_\_\_\_, (Affiliation) \_\_\_\_\_  
(Business Name) \_\_\_\_\_

I certify under penalty of law that I understand the terms and conditions of the general KPDES permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification.

**Subcontractor Certification**

The subcontractors below certify under penalty of law that they understand the terms and conditions of the general KPDES permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification.

Signed: _____	Signed: _____
(Sub Name) _____	(Sub Name) _____
(Address 1) _____	(Address 1) _____
(Address 2) _____	(Address 2) _____
(Phone No.) _____	(Phone No.) _____

## Construction Site Inspection Report (SAMPLE – OR USE YOUR OWN)

<b>Company:</b>	<b>Site:</b>	<b>County:</b>
<b>Site Operator:</b>		<b>Inspection Date:</b>
<b>Receiving Water:</b>	<b>Total Site Area (acres):</b>	<b># Disturbed Acres:</b>
<b>Inspector Name:</b>	<b>Inspector Qualifications:</b>	
<b>Inspection Type:</b> Weekly or ½ Inch Rain	<b>Days Since Last Rainfall</b> _____	<b># Inches of Last Rainfall:</b> _____

### Field Inspection Observations

<b>BMP Category</b>	<b>Compliance</b> Poor Fair Good	<b>Field Indicators for Compliance</b>
Project Operations		Notice of Intent (KPDES permit) and other local/state permits on file ESC/SWPPP on site and available for review; project activities compliant with plan Weekly inspection and rain-event reports on BMPs available for review Diversions, silt checks/traps/basins, and silt fences/barriers installed prior to clearing Grading and clearing conducted in phases to minimize exposed soil areas No vegetation removal or operations in stream or sinkhole buffer area (25 ft min) Rock pad with underliner in place on all construction site exits leading to paved roads No sediment, mud, or rock on paved public roads in project area Dust control if needed when working in residential areas during dry conditions
Drainage Management		Upland runoff diverted around bare soil areas with vegetated/lined ditches/berms Drainage channels exiting the site are lined with grass/blanket/rock and stabilized Discharges from dewatering operations cleaned in silt fence enclosure or other filter No muddy runoff leaving site after rains up to 1½ inches
Erosion Protection		Exposed soil seeded/mulched after 2 weeks if no work is planned for the next 7 days Soils on steep slopes seeded/mulched/blanketed as needed to prevent rutting
Sediment Barriers		Silt fence, rock filter, or other sediment barrier below all bare soil areas on slopes Barrier installed across slope on the contour, trenched in, posts on downhill side Multiple sediment barriers at least 125 ft apart on unseeded slopes steeper than 4:1 J-hook interceptors along silt fence where heavy muddy flows run along fencing No visible undercutting or bypassing or blowout of sediment barrier Accumulated sediment is less than halfway to the top of sediment barrier
Slope Protection		Slopes tracked, disked, or conditioned after final grade is established Slopes seeded, mulched, or blanketed within 14 days, no unmanaged rills or gullyng Heavy downslope flows controlled by lined downdrain channels or slope drain pipes No muddy runoff from slopes into streams, rivers, lakes, or wetlands
Inlet Protection		Inlet dam/device or filtration unit placed at all inlets receiving muddy flows No visible undercutting, bypassing, or blowout of inlet protection dam or device Accumulated sediment is less than halfway to the top of the inlet protection dam/device
Outlet Protection		High flow discharges have rock or other flow dissipaters of adequate sizing at outlet Culvert outlets show no visible signs of erosion/scour, bank failure, or collapse
Ditch and Channel Stabilization		No unmanaged channel bank erosion or bottom scouring visible within or below site Ditches with slopes more than 3% have check dams spaced as needed, if not grassed Ditch check dams tied in to banks, with center 4" lower than sides, and no bypassing Ditches with slopes of up to 5% are thickly seeded with grass (minimum requirement) Ditches 5% to 15% are lined with thick grass and erosion control blankets as needed Ditches 15% to 33% are lined with thick grass and matting or other approved product Ditches exceeding 33% are paved or lined with rock or other approved product





**SECTION 02374 – ESC PERMITTING, INSPECTION, AND PERMITTING PROCEDURES**

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Permitting, Inspection, and Enforcement Procedures  
for Erosion and Sediment Control on  
Division of Water Quality Capital Construction Projects

*Lexington-Fayette  
Urban County Government*



November 2020

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**Permitting, Inspection, and Enforcement Procedures  
for Erosion and Sediment Control on Division of Water Quality  
Capital Construction Projects**

***Date of Original Publication:***

October 2013

***Date of Current Publication:***

November 2020



*This publication was developed by the Tetra Tech / Third Rock Consultants Stormwater Program Management Team under contract to LFUCG for purposes of implementing the stormwater provisions of its Clean Water Act Consent Decree and/or its Kentucky Division of Water (KDOW) Municipal Separate Storm Sewer System (MS4) Permit.*

## **Permitting, Inspection, and Enforcement Procedures for Erosion, Sediment, and Stormwater Control on Division of Water Quality Capital Construction Projects**

### **DWQ Remedial Measures Plan Projects**

**DWQ RMP Program Manager:** Bob Peterson

**DWQ Program Management Consultant:** Hazen and Sawyer

**Construction Contract Administrators (CA):** DWQ Consultants

**Resident Project Representative (RPR):** DWQ Consultants

**ESC Plan Reviewer:** DWQ Stormwater Section – Amad Al-Humadi

**Land Disturbance Permit (LDP) Issuer:** DOE New Development

**Erosion and Sediment Control Compliance Inspector:** RPR

**Accela Data Entry:** DWQ Compliance & Monitoring (C&M) – Kevin Lyne

**Land Disturbance Permit (LDP) Permittee:** Contractor

### **DWQ Wastewater Treatment Plant Capital Projects**

**DWQ Plant Engineer:** Tiffany Rank

**DWQ Project Manager:** Varies

**Construction Contract Administrators (CA):** Rick Day, Rick Bowman

**Resident Project Representatives (RPR):** Varies

**ESC Plan Reviewer:** DWQ Stormwater Section – Amad Al-Humadi

**Land Disturbance Permit (LDP) Issuer:** DOE New Development

**Erosion and Sediment Control Compliance Inspector:** RPR

**Accela Data Entry:** DWQ Construction Management – Jody Scrivner

**Land Disturbance Permit (LDP) Permittee:** Contractor

### **DWQ Stormwater, Water Quality, and Capacity Assurance Capital Projects:**

**DWQ Section Managers:** Greg Lubeck, Jennifer Carey, or Craig Prater

**DWQ Project Manager:** Varies

**Construction Contract Administrator (CA):** Rick Day

**Resident Project Representatives (RPR):** Rick Day or Bill Warren

**ESC Plan Reviewer:** DWQ Stormwater Section – Amad Al-Humadi

**Land Disturbance Permit (LDP) Issuer:** DOE New Development

**Erosion and Sediment Control Compliance Inspector:** RPR

**Accela Data Entry:** DWQ Construction Management – Jody Scrivner

**Land Disturbance Permit (LDP) Permittee:** Contractor

## Permitting Procedures

1. Contractor shall develop a Stormwater Pollution Prevention Plan / Erosion and Sediment Control Plan (SWPPP/ESC Plan). A SWPPP/ESC Plan template is on the LFUCG website at <https://www.lexingtonky.gov/new-development>. On some projects, the construction contract documents may contain a SWPPP/ESC Plan prepared by LFUCG's consultant for purposes of establishing bid quantities. If the Contractor chooses to use this SWPPP/ESC Plan to obtain the required permits, the Contractor takes sole responsibility for the content of the SWPPP/ESC Plan and the implementation of the plan during construction.
2. Contractor must submit an application for a Land Disturbance Permit to the LFUCG Division of Engineering before beginning project construction. The permit application is available at <https://aca3.accela.com/lexky/>.
3. For projects with a disturbed area of  $\geq 1$  acre, the contractor must submit a Notice of Intent (NOI) to the KY Division of Water (KDOW) and obtain KYR10 Permit coverage before beginning construction of any kind on the site. The NOI can be submitted electronically at <http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf>.
4. Contractor cannot start project work until they have obtained the LFUCG Land Disturbance Permit and KYR10 Permit coverage (if applicable – see above).
5. Amad Al-Humadi will review the SWPPP/ESC Plan, confirm that the Contractor has obtained KYR10 Permit coverage (if applicable – see above), and authorize the Contractor to install the initial BMPs.
6. Contractor then installs the initial BMPs, prior to project work (general excavation, grading, etc.).
7. Amad Al-Humadi inspects the installation of the initial BMPs and authorizes DOE New Development to issue the Land Disturbance Permit. Contractor then begins the project.

## Contractor Responsibilities

### Contractor shall:

1. Develop a SWPPP/ESC Plan, or review and agree to use the SWPPP/ESC Plan prepared by LFUCG's consultant, or amend it as needed.
2. Attend a pre-construction conference with LFUCG.
3. Post the LFUCG Land Disturbance Permit and KYR10 Permit (if applicable) on the project sign at the site, and keep a copy of the SWPPP/ESC Plan on site and available for review.
4. Follow the SWPPP/ESC Plan; revise and redline it as conditions change on the site.
5. Install and maintain BMPs to prevent sediment from washing into streets, storm sewers, and streams. All runoff from disturbed areas must pass through a BMP before leaving the site.
6. Maintain a 50-foot vegetative buffer strip along perennial and intermittent streams (including impounded streams), wetlands, sinkholes, and inlets.
7. If work must be done within 50 feet of a perennial or intermittent stream, wetland, sinkhole, or inlet, complete work as soon as possible and stabilize the area within 24 hours after completing work.
8. Conduct an ESC inspection at least once every 7 calendar days and within 24 hours after each rainfall of 0.5 inches or greater (or 4 inches of snow or greater).
9. Complete and sign the inspection form after each inspection. Keep the completed inspection forms on site and available for review.
10. Stabilize inactive portions of the site with straw, blanket, seed, or other cover within 14 days of no activity, and provide permanent stabilization within 14 days of reaching final grade.
11. If the project has a KYR10 Permit, file a Notice of Termination with the KY Division of Water and forward to the LFUCG Division of Engineering and LFUCG Division of Water Quality when construction has been completed and the site is stabilized. Final stabilization is defined as follows from KYR10: "All soil disturbing activities at the site have been completed and either of the two following criteria are met – a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed."
12. Respond promptly to Verbal Warnings and Notices of Violation from LFUCG regarding correcting ESC problems.

## Inspection Procedures for the Resident Project Representative

### Weekly Field Inspections

1. Ensure the LFUCG Land Disturbance Permit and KYR10 Permit are posted at the site
2. Ensure SWPPP/ESC Plan is available for review
3. Ensure that the weekly and rain event completed inspection forms are available for review
4. Walk the perimeter of the entire site
5. Note downgradient controls:
  - Inspect ditches and sheet flow areas
  - Silt fences working?
  - Ditches vegetated / stabilized?
  - Significant sediment discharges?
6. Walk around internal disturbed areas
  - Idle for more than 14 days . . . stabilized?
7. Inspect all inlets and ditches
  - Inlets protected, ditches stabilized?
8. Check out material / fuel storage areas
  - Spills? Leaks? Leaching pollutants? Litter / waste managed?
9. Inspect concrete washout(s)
10. Inspect the construction entrance / exit
11. Inspect the 50-foot vegetative buffer strip adjacent to waterways. The buffer strip must be stabilized within 24 hours of any approved construction activity in the buffer strip.
12. Communicate inspection findings to Contractor, note issues that need attention
13. Complete the LFUCG inspection checklist
14. Submit an electronic copy of the completed checklist to the Project Manager and the Accela Data Entry Contact person on page 1.
15. Inspect the site the next working day after a storm event of 0.5 inches or greater. Complete the inspection checklist and submit a copy to the Project Manager

### Important Items for the Permittee / Contractor / RPR to Verify:

- Posted permits, plans, and inspection reports
- Graded / inactive areas stabilized with seed, mulch, blankets, mats, etc.
- Stabilized, non-eroding ditches
- Maintained silt fences and protected curb / drop inlets
- No mud on the street
- Trash and litter managed
- No disturbance in the 50-foot buffer zone adjacent to streams, wetlands, sinkholes, and inlets, unless approved; areas within the 50-foot buffer must be stabilized within 24 hours



## Enforcement Procedures

1. The Contractor will be paid for erosion and sediment control based upon a schedule of values established within the Measurement and Payment section of the specifications (e.g., 25% paid once initial ESCs have been installed and LDP obtained, 50% paid in equal monthly payments for maintenance over the construction period, 25% paid for removal of ESCs and final stabilization). The intent of this provision is to pay the Contractor for ESC maintenance for each month that the BMPs are maintained and functioning properly.
2. The RPR shall follow the attached **Compliance Assistance Guidance for DWQ Capital Project RPRs** and implement the **Escalating Enforcement Process** described below.

**Table 1 – ESC Escalating Enforcement Process**

DWQ Capital Project	Escalating Enforcement Process
Remedial Measures Program	The RPR shall escalate the issue to the RMP Program Manager and RMP Program Management Consultant's Project Manager
Wastewater Treatment Plants Stormwater Section MS4/Water Quality Section Sanitary Sewers Capacity Assurance Program	The RPR shall escalate the issue to the DWQ Section Manager and the DWQ Construction Contract Administrator

3. DWQ will use all available means in the contract to obtain compliance, including:
  - a. withholding payment
  - b. notifying the Contractor that LFUCG intends to initiate the process for declaring that the Contractor is in default of the contract and specifying a deadline for addressing the ESC deficiencies
  - c. initiating the process for calling the ESC Performance Bond
  - d. issuing Notices of Violation (NOVs)
  - e. stopping work

## Compliance Assistance Guidance for DWQ Capital Project RPRs

Observed Condition	Verbal Warning to Correct within 3-5 days (See Note 1)	Verbal Warning to Correct within 24 hours (See Note 1)	Escalate the Issue Immediately in Accordance with Table 1
Construction Entrance to Public Road	Rock pad poorly installed/maintained	Rock pad not installed	
	Small amount of sediment on road	Rock pad completely covered with soil	
Unstabilized Areas	Flat inactive disturbed areas not stabilized in 14 days	Significant amount of sediment on road	
		Ditches not stabilized immediately after construction	
Inlet Protection		Disturbed, inactive slopes not stabilized within 14 days	Disturbed, inactive slopes above waterways, wetlands, floodplains, critical areas <sup>2</sup> not stabilized within 24 hours
	Sediment needs to be removed around inlet protection	Curb inlet protection not in place or improperly installed	Discharge of concrete wash water, chemicals, other pollutants into inlets, streams, wetlands, etc.
Silt Fencing	Does not match SWPPP/ESC Plan but critical areas <sup>2</sup> and roads are protected	Silt fence not installed per plan and critical areas <sup>2</sup> and roads are not protected	
	Does not comply with Stormwater Manual but is functional	Blowouts have occurred with discharge of sediment to critical areas <sup>2</sup>	Large quantities of sediment in critical areas <sup>2</sup>
Soil Stockpiles	Needs maintenance/repair, but is not near an inlet or surface water	Not trenched in, is not functional	
	No perimeter controls, downstream BMPs in place	Silt fence needs repairs in critical areas <sup>2</sup>	
Permit Violations		No perimeter controls, downstream BMPs in place	
		Permit expired	Site not permitted (No LDP or KDOW NOI)
		Permit not posted or available on site	
		Contact name/phone not posted	
		No self-inspection reports; reports not on site	
		Self-inspection reports not current	
	SWPPP/ESC Plan not on site		
			Unapproved construction activities in 50-foot buffer zone around sinkholes, streams, wetlands, etc.
			Construction has started, BMPs not installed

1. Escalate the issue in accordance with Table 1 after the 2nd Verbal Warning.
2. Critical areas are areas within 25 feet of a stream, wetland, sinkhole, or inlet.

## SECTION 02532 – SEWAGE COLLECTION LINES

### PART 1 – GENERAL

#### 1.01 SUMMARY

- A. The Contractor shall furnish all labor, material, and equipment necessary to install gravity sewer piping together with all appurtenances as shown and detailed on the Drawings and specified herein.

### PART 2 – PRODUCTS

#### 2.01 DUCTILE IRON (DI) PIPE

- A. Ductile iron pipe shall be furnished cement lined in accordance with ANSI/AWWA C104/A21.4 with bituminous seal coat unless otherwise noted on the drawings or in Bid Form. Ductile iron pipe shall be furnished with rubber gasket push-on joints except as may otherwise be noted on the drawings or in difficult working areas and with approval of the Engineer. All pipe inside of casing pipe shall have restraining gaskets as specified in this Section. **All DI pipe and fittings within 2,000 LF downstream or to nearest manhole beyond 2,000 LF of a force main discharge shall be lined with Protecto 401 coating, or approved equal as specified hereinafter.**
- B. Thickness design of ductile iron shall conform in all aspects to the requirements of ANSI/AWWA C150/A 21.50 latest revision.
- C. Manufacture and testing of ductile iron pipe shall conform in all aspects to the requirements of ANSI/AWWA C151/A 21.51 latest revision.
- D. Pipe Coatings

- 1. Interior Lining

- a. Condition of Ductile Iron Prior to Surface Preparation

All ductile pipe and fittings shall be delivered to the application facility without asphalt, cement lining, or any other lining on the interior surface. Because removal of old linings may not be possible, the intent of this specification is that the entire interior of the ductile iron pipe and fittings shall not have been lined with any substance prior to the application of the specified lining material and no coating shall have been applied to the first six (6) inches of the exterior of the spigot ends.

- b. Lining Material

The standard of quality is Protecto 401 Ceramic Epoxy. The material shall be an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment. Any request for substitution must be accompanied by a successful history of lining pipe and fittings for sewer service, a test report verifying the following properties, and a certification of the test results.

(1) A permeability rating of 0.00 when tested according to Method A of ASTM E-96-66, Procedure A with a test duration of 30 days.

(2) The following test must be run on coupons from factory lined ductile iron pipe:

- (a) ASTM B-117 Salt Spray (scribed panel) – Results to equal 0.0 undercutting after two years.

(b) ASTM G-95 Cathodic Disbondment 1.5 volts @ 77°F. Results to equal no more than 0.5 mm undercutting after 30 days.

(c) Immersion Testing rated using ASTM D-714-87.

- i. 20% Sulfuric Acid – No effect after two years.
- ii. 25% Sodium Hydroxide – No effect after two years.
- iii. 160°F Distilled Water – No effect after two years.
- iv. 120°F Tap Water (scribed panel) – 0.0 undercutting after two years with no effect.

(3) An abrasion resistance of no more than 4 mils (.10mm) loss after one million cycles – European Standard EN 598: 1994 section 7.8 Abrasion resistance.

c. Application

(1) Applicator

The lining shall be applied by a competent firm with a successful history of applying linings to the interior of ductile iron pipe and fittings.

(2) Surface Preparation

Prior to abrasive blasting, the entire area to receive the protective compound shall be inspected for oil, grease, etc. Any areas where oil, grease, or any substance which can be removed by solvent is present, shall be solvent cleaned using the guidelines outlined in DIPRA-1 Solvent Cleaning. After the surface has been made free of grease, oil, or other substances, all areas to receive the protective compounds shall be abrasively blasted using compressed air nozzles with sand or grit abrasive media. The entire surface to be lined shall be struck with the blast media so that all rust, loose oxides, etc., are removed from the surface. Only slight stains and tightly adhering annealing oxide may be left on the surface. Any area where rust reappears before lining must be reblasted.

(3) Lining

After the surface preparation and within eight (8) hours of surface preparation, the interior of the pipe shall receive 40 mils nominal dry film thickness of Protecto 401. No lining shall take place when the substrate or ambient temperature is below 40 degrees Fahrenheit. The surface also must be dry and dust free. If flange pipe or fittings are included in the project, the lining shall not be used on the face of the flange.

(4) Coating of Bell Sockets and Spigot Ends

Due to the tolerances involved, the gasket area and spigot end up to six (6) inches back from the end of the spigot end must be coated with 6 mils nominal, 10 mils maximum Protecto Joint Compound. The Joint Compound shall be applied by brush to ensure coverage. Care should be taken that the Joint Compound is smooth without excess buildup in the gasket seat or on the spigot ends. Coating of the gasket seat and spigot ends shall be done after the application of the lining.

(5) Number of Coats

The number of coats of lining material applied shall be as recommended by the lining manufacturer. However, in no case shall this material be applied above the dry thickness per coat recommended by the lining manufacturer in printed

literature. The maximum or minimum time between coats shall be that time recommended by the lining material manufacturer. **No material shall be used for lining which is not indefinitely recoatable with itself without roughening of the surface.**

(6) Touch-Up and Repair

Protecto Joint Compound shall be used for touch-up or repair in accordance with manufacturer's recommendations.

d. Inspection and Certification

(1) Inspection

- (a) All ductile iron pipe and fitting linings shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PA-2 Film Thickness Rating.
- (b) The interior lining of all pipe barrels and fittings shall be tested for pinholes with a non-destructive 2,500-volt test. Any defects found shall be repaired prior to shipment.
- (c) Each pipe joint and fitting shall be marked with the date of application of the lining system along with its numerical sequence of application on that date and records maintained by the applicator of his work.

(2) Certification

The pipe or fitting manufacturer must supply a certificate attesting to the fact that the applicator met the requirements of this specification, and that the material used was as specified.

e. Handling

Protecto 401 lined pipe and fittings must be handled only from the outside of the pipe and fittings. No forks, chains, straps, hooks, etc., shall be placed inside the pipe and fittings for lifting, positioning, or laying.

2. Exterior Coating

Bituminous outside coating shall be in accordance with ANSI/AWWA C151/A 21.51 for pipe and ANSI/AWWA C110/A 21.10 for fittings.

- E. Fittings and gaskets for mechanical and push-on joint ductile and cast iron pipe shall conform to the latest revisions of ANSI/AWWA C110/A 21.10 for mechanical and push-on joint fittings, ANSI/AWWA C111/A 21.11 for gaskets, and ANSI/AWWA C153/A 21.53 for mechanical and push-on joint compact fittings.
- F. All ductile and cast iron fittings shall be ductile iron grade 80-60-03 in accordance with ASTM A339-55.
- G. Restrained joint pipe and fittings shall be a boltless system equal to "Field-Lok" restraining gaskets or "TRFLEX Joint" as manufactured by U.S. Pipe & Foundry Company.
- H. Pipe shall be as manufactured by U.S. Pipe & Foundry Company, Clow, American Pipe Company, or equal.
- I. Pipe or fitting shall have the ANSI/AWWA standard, pressure (or thickness) class, diameter, DI or ductile noted, manufacturer, and country and year where cast on the outside of the

body.

## **2.02 POLYVINYL CHLORIDE (PVC) PIPE (SOLID WALL)**

- A. Bury depth 20 feet or less or encased in steel pipe: PVC pipe and fittings less than 15 inches in diameter shall conform to the requirements of ASTM Standard Specifications for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings, Designation D 3034. Pipe and fittings shall have a minimum cell classification of 12454B or 12454C as defined in ASTM D-1784. For depths 10 feet and less, pipe shall have a pipe diameter to wall thickness ratio (SDR) of 35. For depths greater than 10 feet up to 20 feet maximum, pipe shall be SDR 26. If the PVC pipe is encased in a steel pipe, PVC pipe shall be SDR 35 regardless of buried depth.
- B. Bury depth 20 feet or less or encased in steel pipe: PVC pipe and fitting with diameters 18-inch and larger shall conform to the requirements of ASTM D-17845 and ASTM F-679. Pipe and fittings shall have a minimum cell classification of 14545C. The minimum wall thickness shall conform to T-1 as specified in ASTM F-679. For depths 10 feet and less, pipe shall have pipe stiffness 46 (SDR 35). For depths greater than 10 feet up to 20 feet maximum, pipe shall have pipe stiffness of 115 (SDR 26). If the PVC pipe is encased in a steel pipe, PVC pipe shall be SDR 35 regardless of buried depth.
- C. Bury depth greater than 20 feet: PVC pipe 8 inches through 12-inch PVC plastic pipe shall conform to ANSI/AWWA C900. Pipe 14-inch through 36-inch PVC plastic pipe shall conform to ANSI/AWWA C905. Pipe shall be pressure Class 165, DR 25. PVC pipe shall have bell end and elastomeric gasket, and with plain end for cast-iron or ductile-iron fittings. Elastomeric gasket shall conform with the requirements of ASTM F-477. The seal of the National Sanitation Foundation Testing Laboratory must appear on each pipe.
- C. Joints shall be push-on bell and spigot type using elastomeric ring gaskets conforming to ASTM D 3212 and F 477. The gaskets shall be securely fixed into place in the bells so that they cannot be dislodged during joint assembly. The gaskets shall be of a composition and texture which is resistant to common ingredients of sewage and industrial wastes, including oils and groundwater, and which will endure permanently under the conditions of the proposed use.
- D. Pipe shall be furnished in lengths of at least 12 feet. The centerline of each pipe section shall not deviate from a straight line drawn between the centers of the openings at the ends by more than 1/16 inch per foot of length.
- E. PVC pipe shall not have a filler content greater than ten percent (10%) by weight relative to PVC resin in the compound.
- F. PVC pipe shall be clearly marked at intervals of 5 feet or less with the manufacturer's name or trademark, nominal pipe size, PVC cell classification, the legend "Type PSM SDR 35 PVC Sewer Pipe" and the designation "ASTM D 3034", or "ASTM F-679". Fittings shall be clearly marked with the manufacturer's name or trademark, nominal size, the material designation "PVC", "PSM" and the designation "ASTM D 3034", or "ASTM F-679".
- G. PVC pipe installation shall conform to ASTM D-2321 latest revision.
- H. Pipe shall be as manufactured by JM Eagle, H & W Pipe Company, Diamond Plastics, or equal.

## **2.03 FIBERGLASS REINFORCED POLYMER MORTAR PIPE (FRPM)**

### **A References**

1. ASTM D3262 – Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced

Thermosetting-Resin) Sewer Pipe.

2. ASTM D4161 – Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals.
3. ASTM D2412 – Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
4. ASTM D3681 – Standard Test Method for Chemical Resistance of “Fiberglass” Pipe in a Deflected Condition.
5. ASTM D638 – Test Method for Tensile Properties of Plastics.

#### B. Materials

1. Pipe Class: Pipe shall be stiffness class 46 (SN) for depths 30 feet or less; SN 72 for depths greater than 30 feet.
2. Resin Systems: The manufacturer shall use only polyester resin systems with a proven history of performance in this particular application. The historical data shall have been acquired from a composite material of similar construction and composition as the proposed product.
3. Glass Reinforcements; The reinforcing glass fibers used to manufacture the components shall be of highest quality commercial grade E-glass filaments with binder and sizing compatible with impregnating resins.
4. Silica Sand: Sand shall be minimum 98% silica with a maximum moisture content of 0.2%.
5. Additives: Resin additives, such as curing agents, pigments, dyes, fillers, thixotropic agents, etc., when used, shall not detrimentally effect the performance of the product.
6. Elastomeric Gaskets: Gaskets shall meet ASTM F477 and be supplied by qualified gasket manufactures and be suitable for the service intended.

#### C. Manufacture and Construction

1. Pipes: Manufacture pipe to result in a dense, nonporous, corrosion-resistant, consistent composite structure. The interior surface of the pipes exposed to sewer flow shall be manufactured using a resin & glass reinforced liner or resin with a 50% elongation (minimum) when tested in accordance with D638. The interior surface shall provide crack resistance and abrasion resistance. The exterior surface of the pipes shall be comprised of a glass reinforced resin or sand and resin layer which provides UV protection to the exterior. Pipes shall be Type 1, Liner 1, Grade 1 or Type 1, Liner 2, Grade 3 per ASTM D362.
2. Joints: Unless otherwise specified, the pipe shall be field connected with fiberglass sleeve couplings that utilized elastomeric sealing gaskets as the sole means to maintain joint watertightness. The joints must meet the performance requirements of ASTM D4161. Joints at tie-ins, when needed, may utilize gasket-sealed closure couplings.
3. Fittings: Flanges, Elbows, reducers, tees, wyes, laterals and other fittings shall be capable of withstanding all operating conditions when installed. They may be contact molded or manufactured from mitered sections of pipe joined by glass-fiber-reinforced overlays. Fittings shall be FRPM. Tees with 6 inch stub for laterals may have stubs constructed of FRPM or PVC SDR 35. Ductile iron (DI) fittings may be substituted for FRPM fittings. **The DI fittings shall be lined with Protecto 401 coating, or approved equal, and in accordance with DI pipe specification in this Section 02531.**

4. Acceptable Manufacturer: HOBAS Pipe USA or Flowtite.

D. Dimensions

1. Diameters: The actual outside diameter (18 inches to 48 inches) of the pipes shall be in accordance with ASTM D3262 and be in cast iron pipe sizes. For other diameters, OD's shall be per manufacturer's literature.
2. Lengths: Pipe shall be supplied in nominal lengths of 20 to 40 feet. Actual laying length shall be nominal +1, -4 inches. At least 90% of the total footage of each size and class of pipe, excluding special order lengths, shall be furnished in nominal length sections.
3. Wall Thickness: The minimum wall thickness shall be the stated design thickness.
4. End Squareness: Pipe ends shall be square to the pipe axis with a maximum tolerance of 1/8".

E. Testing

1. Pipes: Pipes shall be manufactured and tested in accordance with ASTM D3262.
2. Joints: Coupling joints shall meet the requirements of ASTM D4161.
3. Stiffness: Minimum pipe stiffness when tested in accordance with ASTM D2412 shall normally be 36 psi.
4. Strain Corrosion: The extrapolated 50-year strain corrosion value meet the requirements of Table 4 in ASTM D3262 when tested in accordance with ASTM 3681.

F. Installation

1. Burial: The bedding and burial of pipe and fittings shall be in accordance with the project plans and specifications and the manufacturer's requirements.
2. Pipe Handling: Use textile slings, other suitable materials or a forklift. Use of chains or cables is not allowed.
3. Jointing:
  - a. Clean ends of pipe and coupling components
  - b. Apply joint lubricant to pipe ends and elastomeric seals of coupling. Use only lubricants approved by the pipe manufacturer.
  - c. Use suitable equipment and end protection to push or pull the pipes together.
  - d. Do not exceed forces recommended by the manufacturer for coupling pipe.
  - e. Join pipes in straight alignment then deflect to required angle. Do not allow the deflection angle to exceed the deflection permitted by the manufacturer.
4. Field Tests:
  - a. Testing shall be in accordance with specification hereinafter in this Section 02531.

**2.04 PRESTRESSED CONCRETE CYLINDER PIPE (PCCP)**



- A. Unless otherwise specified, the design materials and workmanship for pipe shall conform to the requirements of AWWA C301. Core and coating thickness for pipe shall be as specified in AWWA C301.
- B. Prestressed concrete cylinder pipe and fittings shall be manufactured by Hanson Pressure Pipe, Grand Prairie, TX or equal.
- C. Design Conditions
1. Pipe shall be designed in accordance with the AWWA C304 Standard, using the following design conditions; these conditions shall also be used in designing fittings that include a Portland cement mortar interior and exterior coating of the steel cylinder:
    - a. External Loading
      - (1) The earth load shall be taken as the greater of the following:
        - (a) Depth from existing ground level to top of pipe as shown on plans, or
        - (b) Five feet minimum in all cases.
      - (2) Earth loads shall be computed using the following parameters:
        - (a) Unit Soil Weight = 120 pounds per cubic foot
        - (b) TYPE R3 Bedding
        - (c) Bedding angle = \_\_\_°
      - (3) Live loads shall be calculated as:
        - (a) Pipe in streets and other paved areas: AASHTO HS-20 for two trucks passing
        - (b) Pipe within railroad right-of-way: AREA Cooper E-80
        - (c) Both HS-20 and E-80 live loads shall be computed in accordance with the American Concrete Pipe Association "Concrete Pipe Design Manual" or "Concrete Pipe Handbook".
- D. Fittings
1. Steel thickness of all fittings shall be designed in accordance with Chapter 8 of the AWWA M9 Manual. Fittings shall be designed for the same conditions as the adjacent pipe.
  2. Fabrication of the fittings shall be as per AWWA M9 Manual and C301.
  3. Interior and exterior concrete/mortar coating shall be as per AWWA C301.
- E. The date of manufacture or a serial number traceable to the date of manufacture and the design strength classification shall be clearly marked by stencil with waterproof paint at the end of the pipe barrel. Unsatisfactory or damaged pipe will be permanently rejected, repaired in the field if permitted by the Engineer and the pipe manufacturer, or returned to the pipe plant for repairs. Pits, blisters, rough spots, minor concrete or mortar breakage, and other imperfections may be repaired unless prohibited by the Engineer. Repairs shall be carefully inspected before final approval. Cement mortar used for repairs shall have a minimum compressive strength of 3,000 psi at the end of 7 days and 4,500 psi at the end of 28 days, when tested in cylinders stored in the standard manner. Major breakage or spalling from

interior of pipe may be reason for the rejection of pipe. Pipe may be repaired under unloaded conditions (removal of prestressing wire). Cement mortar used for repair shall have a minimum compressive strength of 3,000 psi at 7 days and 4,500 psi at 28 days when tested as standard cylinders. New prestressing wire may be applied when the compressive strength as determined by cylinder testing equals or exceeds the strength required for prestressing as stated in AWWA C301.

- F. Cement shall be Type II and shall be in accordance with ASTM C150.
- G. The pipe core shall be produced by the centrifugal method or the vertical casting method.
- H. Wire shall be a minimum of No.6 gauge and shall meet the requirements of ASTM A648, Class III. Wire of a class strength greater than Class III will not be permitted.
- I. Steel cylinders shall be No. 16 gauge minimum thickness and shall be hot rolled.
- J. Mortar coating shall consist of one part cement to a maximum of three parts fine aggregate by weight. Rebound not to exceed one fourth of the total mix weight may be used provided the rebound is treated as fine aggregate.
- K. Bell and spigot joint rings shall be steel, self-centering type, and otherwise specified in AWWA C301. Surfaces of the joint rings that will be exposed after fabrication is complete shall receive a zinc metalized coating of 4 mils thickness (0.004").

Joints must be encased in grout after the joint has been completed and before the line is testing using special grout bands supplied by the pipe manufacturer.

- L. The rubber gaskets shall be in accordance with AWWA C301 and shall be designed and manufactured so that the completed joint will withstand an internal water pressure in excess of the highest pressure to which the pipe will be subjected without showing any leakage by the gasket or displacement of it.
- M. Bell and spigot wall fittings shall be the manufacturer's standard design. Wall fittings shall be supplied with adequate bracing to keep them round and true during transportation and installation.
- N. All Prestressed Concrete Cylinder Pipe shall include full thickness internal protection to prevent microbiologically induced corrosion with concrete admixture ConShield Technologies, Inc. or approved equal.
- O. Pipe Manufacturer's Field Service Representative:
  - 1. Pipe manufacturer shall provide a qualified Field Service Representative, who shall be available to be on the project site, with proper notice, from the Contractor's, Engineer's, or Owner's representative.
  - 2. The Field Service Representative, who shall be an employee of the pipe manufacturer, must have experience as a representative of the pipe manufacturer in the area of providing such services. The individual may be a Registered Professional Engineer possessing a minimum of 2 years of experience in the area of manufacture of pipe, sales and service representation.
  - 3. It is the intent of the Owner to be assured that the installation of this pipeline is performed in accordance with the specified standards and manufacturer's recommendations. Good installation procedures will assure integrity of the pipeline with the minimum amount of pipe joints required for completion of the main. Therefore, the Contractor shall include in his Bid as a minimum that the pipe manufacturer's Field Service Representative will be on-site for the following periods:

- a. Initial construction training and monitoring.
- b. Provide problem-solving assistance during construction.

**2.05 POLYPROPYLENE (PP) PIPE (TRIPLE-WALL)**

- A. Only Polypropylene Pipe with a triple-wall construction shall be acceptable. Triple wall pipe shall meet ASTM F2764.
- B. Pipe shall have a minimum pipe stiffness of 46 pii when tested in accordance with ASTM D2412.
- C. Bury depth shall be in accordance to the table below. The table below does not consider hydrostatic pressure. The presence of hydrostatic pressure will lower the maximum bury depths listed. Contractor shall contact the manufacturer for fill height limits involving hydrostatic pressure and include recommendations in the pipe submittal. Compaction levels shown are for standard Proctor density.

Maximum Cover Pipe, ft.			
Diameter, in.	Class 1	Class 2	
	Compacted	95%	90%
30	30	21	15
36	29	21	15
42	32	22	16
48	33	23	16
60	31	21	15

- D. Pipe shall be joined using a bell and spigot joint meeting the requirements of ASTM F2764. The joint shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be of a composition and texture which is resistant to common ingredients of sewage and industrial wastes, including oils and groundwater, and which will endure permanently under the conditions of the proposed use. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gaskets are free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly. 30- through 60-inch diameters shall have a reinforced bell with a polymer composite band installed by the manufacturer.
- E. Fittings shall conform to ASTM F2764. Bell and spigot connections shall utilize a welded or integral bell and valley or inline gaskets meeting the watertight joint performance requirements of ASTM D3212.
- F. To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F1417 or ASTM 2487. Appropriate safety precautions must be used with field-testing any pipe material. Contact the manufacturer for recommended leakage rates.
- G. Polypropylene compound for pipe and fitting production shall be an impact modified copolymer meeting the material requirements of ASTM F2764.
- H. Installation shall be in accordance with ASTM D2321 and manufacturers recommended installation guidelines.
- I. When backfilling trench with flowable fill, Contractor shall use an anchoring system and incremental lifts to avoid pipe flotation. Contractor shall consult pipe manufacturer for requirements to avoid pipe flotation in flowable fill installations.

- J. Pipe shall be manufactured by Advanced Drainage Systems, Inc. or equal.

## **2.06 CONNECTION TO EXISTING GRAVITY PIPE**

- A. Connections between new and existing gravity pipe shall use a Fernco Strong Back, Straub-Flex coupling, Arpol or approved equal.
- B. Connections between like sizes of PVC pipe shall use a PVC GXG Repair Coupling.
- C. Connections between ductile iron and ductile iron, a Maxifit Mechanical Ductile Iron coupling as manufactured by Viking Johnson, or approved equal, may be used.
- D. For pipes 12 inches in diameter and larger, concrete cradle shall be poured under each coupling. The length of the cradle (longitudinally along the pipe) shall be at least one pipe diameter and centered on the coupling. The depth of the cradle shall be half a pipe diameter (measured from the bottom of the cradle to the invert of the pipe). Cradles shall be formed and poured in place and reach from springline to springline.

## **2.07 UNDERGROUND WARNING TAPE**

- A. All pipe shall include detectable underground warning tape. Tape wire. Tracer wire shall have a thickness of 5 mils, constructed of a minimum 0.003" aluminum foil laminated between polyester and polyethylene sheeting, color coded to sewer, and suitable for direct bury.

## **PART 3 – EXECUTION**

### **3.01 PIPE LAYING**

- A. Excavation, trenching, backfilling, and bedding requirements are set forth in Section 02225.
- B. All pipe shall be laid with ends abutting and true to the lines and grades indicated on the Drawings. The pipe shall be laid straight between changes in alignment and at uniform grade between changes in grade. Pipe shall be fitted and matched so that when laid in the trench, it will provide a smooth and uniform invert.
- C. Before each piece of pipe is lowered into the trench, it shall be thoroughly swabbed out to insure its being clean. Any piece of pipe or fitting which is known to be defective shall not be laid or placed in the lines. If any defective pipe or fitting shall be discovered after the pipe is laid, it shall be removed and replaced with a satisfactory pipe or fitting without additional charge. In case a length of pipe is cut to fit in a line, it shall be so cut as to leave a smooth end at right angles to the longitudinal axis of the pipe and beveled to match the factory bevel for insertion into gasketed joints. Bevel can be made with hand or power tools.
- D. The interior of the pipe, as work progresses, shall be cleaned of dirt, jointing materials, and superfluous materials of every description. When laying of pipe is stopped for any reason, the exposed end of such pipe shall be closed with a plywood plug fitted into the pipe bell so as to exclude earth or other material and precautions taken to prevent flotation of pipe by runoff into trench.
- E. All pipe shall be laid starting at the lowest point and installed so that the spigot ends point in the direction of flow.

### **3.02 JOINTING**

- A. All joint surfaces shall be cleaned immediately before jointing the pipe. The bell or groove

shall be lubricated in accordance with the manufacturer's recommendation. Each pipe unit shall then be carefully pushed into place without damage to pipe or gasket. All pipe shall be provided with home marks to insure proper gasket seating. Details of gasket installation and joint assembly shall follow the direction of the manufacturer's of the joint material and of the pipe. The resulting joints shall be watertight and flexible. **No solvent cement joints shall be allowed.**

### 3.03 INSTALLATION OF PCCP AND FITTINGS

- A. Prestressed concrete cylinder pipe and fittings shall be installed in accordance with requirements of AWWA M9, except as otherwise provided herein. A firm, even bearing throughout the length of the pipe shall be provided by tamping select fill in the haunch area and at the side of the pipe to achieve the required bedding support angle. **BLOCKING WILL NOT BE PERMITTED.**
- B. Gasket, gasket groove, and bell sealing surfaces shall be cleaned and lubricated with a lubricant furnished by the pipe manufacturer. The lubricant shall be approved for use in potable water and shall be harmless to the rubber gasket. Use only lubricant supplied by the pipe manufacturer. Pipe shall be laid with bell ends looking ahead in the direction of laying. As soon as the spigot ring is centered in the bell of the previously laid pipe, it shall be forced home with approved equipment. After the gasket is compressed, verify the position of the gasket in the spigot ring groove with a feeler gage provided by the pipe manufacturer.
- C. The grout diaper for PCCP shall consist of a Tytar synthetic fabric layer (gray in color) and a layer of closed cell foam. These layers are sewn together along with a pair of 5/8" wide steel bands at each edge which are used to secure the diaper to the pipe exterior. Use only grout diapers supplied by the pipe manufacturer. A stretching tool is used to tighten the steel bands. Once the bands are pulled tight, a steel clip is crimped around the bands to hold them in position. It is important that the diaper be carefully placed against the exterior surface of the pipe to insure that it is flush with no gaps or gathers. The closed cell foam surface is to be placed against the pipe exterior.

The wet grout will flow down to the bottom of the diaper and begin to bulge it out. It is often helpful to place some bedding material (or sandbags) directly under the diaper at the bottom to support the weight of the wet grout. Take care to not push excessive amounts of bedding material under the diaper such that the diaper is pushed up into the joint recess impeding the flow of wet grout.

Mix the grout using one part ASTM C150 Type 1 or Type 2 portland cement to not more than three parts clean sand with sufficient water to achieve a pourable consistency. The grout should look and pour like a thick cream. Carefully pour the mixed grout into the gap at the top of the diaper. As the pouring proceeds, the workers must inspect the diaper around the joint periphery to insure that the grout is flowing all around. Once the diaper is full and wet grout is puddling at the gap at the top, apply a stiffer mix the consistency of wet brick mortar over the joint insuring that all steel components of the joint are covered.

### 3.04 UTILITY CROSSING CONCRETE ENCASEMENT

- A. At locations shown on the Drawings, required by the Specifications, or as directed by the Engineer, concrete encasement shall be used when the clearance between the proposed sanitary sewer pipe and any existing utility pipe is 18 inches or less. Utility pipe includes underground water, gas, telephone and electrical conduit, storm sewers, and any other pipe as determined by the Engineer.
- B. There are two cases of utility crossing encasement. Case I is applicable when the proposed sanitary sewer line is below the existing utility line. Case II is applicable when the proposed sanitary sewer line is laid above the utility line. In either case, the concrete shall extend to at

least the spring line of each pipe involved.

- C. Concrete shall be Class A and shall be mixed sufficiently wet to permit it to flow between the pipes to form a continuous bridge. In tamping the concrete, care shall be taken not to disturb the grade or line of either pipe or damage the joints.

### **3.05 TESTING OF GRAVITY SEWER LINES**

- A. After the gravity piping system has been brought to completion, and prior to final inspection, the Contractor shall rod out the entire system by pushing through each individual line in the system, from manhole to manhole, appropriate tools for the removal from the line of any and all dirt, debris, and trash. If necessary during the process of rodding the system, water shall be turned into the system in such quantities to carry off the dirt, debris, and trash.
- B. During the final inspection the Engineer will require all flexible sanitary sewer pipe (PVC, FRP, DI, and PP) to be mandrel deflection tested after installation.
  - 1. The mandrel (go/no-go) device shall be cylindrical in shape and constructed with nine (9) evenly spaced arms of prongs. The mandrel dimension shall be 95 percent of the flexible pipe's published ASTM average inside diameter. Allowances for pipe wall thickness tolerances of ovality (from shipment, heat, shipping loads, poor production, etc.) shall not be deducted from the ASTM average inside diameter, but shall be counted as part of the 5 percent allowance. The contact length of the mandrel's arms shall equal or exceed the nominal diameter of the sewer to be inspected. Critical mandrel dimensions shall carry a tolerance  $\pm 0.001$  inch.
  - 2. The mandrel inspection shall be conducted no earlier than 30 days after reaching final trench backfill grade provided, in the opinion of the Engineer, sufficient water densification or rainfall has occurred to thoroughly settle the soil throughout the entire trench depth. Short-term (tested 30 days after installation) deflection shall not exceed 5 percent of the pipe's average inside diameter. The mandrel shall be hand pulled by the contractor through all sewer lines. Any sections of the sewer not passing the mandrel test shall be uncovered and the Contractor shall replace and recompact the embedment backfill material to the satisfaction of the Engineer. These repaired sections shall be retested with the go/no-go mandrel until passing.
  - 3. The Engineer shall be responsible for approving the mandrel. Proving rings may be used to assist in this. Drawings of the mandrel with complete dimensioning shall be furnished by the Contractor to the Engineer for each diameter and type of flexible pipe.
- C. Low-pressure air tests shall be performed on all gravity sanitary sewers to verify water tightness of pipe joints and connections. The Contractor shall perform testing on each manhole-to-manhole section of sewer line after placement of backfill.
  - 1. Testing of Polyvinyl Chloride (PVC), Fiberglass Reinforced Polymer Mortar (FRPM), Ductile Iron (DI), and Polypropylene (PP) pipe sewer lines shall be performed in accordance with the current editions of ASTM F1417, "Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air," and UNI-B-6, "Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe," respectively.
  - 2. All testing equipment shall be inspected by the Engineer to ensure that equipment is functioning properly.
  - 3. The rate of air loss in the section under test shall be determined by the time-pressure drop method. The time required in minutes for the pressure in the section under test to decrease from 3.5 to 2.5 psig shall be not less than that indicated in the referenced standards.

4. Immediately following the low-pressure air test, the Contractor shall notify the Engineer of the test results. A Low-Pressure Air Test Report shall be completed by the Contractor during testing. The report shall be completed according to the procedures outlined in LFUCG's Construction Inspection Manual, current edition. A copy of the completed Low-Pressure Air Test Report shall be provided to the Engineer and LFUCG-Division of Water Quality for each test.
5. Pipes failing the pressure test will not be accepted and shall be repaired or replaced until a successful test is achieved.
6. When conducting a low-pressure air test, the Contractor shall securely install and brace all plugs prior to pressurizing the pipe. Personnel shall not be permitted to enter manholes when the sewer pipe is pressurized.

SPECIFICATION TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED FOR Q = 0.0015*											
1 Pipe Dia. (in)	2 Minimum Time (min:sec)	3 Length for Minimum Time (ft)	4 Time for Longer Length (sec)	Specified Minimum for Length (L) Shown (min:sec)							
				100 ft	150 ft	200 ft	250 ft	300 ft	350 ft	400 ft	450 ft
4	3:46	597	.380 L	3:46	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	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19:50	114	10.470 L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852 L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768 L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46
42	39:48	57	41.883 L	69:48	104:42	139:37	174:30	209:24	244:19	279:13	314:07
48	45:34	50	54.705 L	91:10	136:45	182:21	227:55	273:31	319:06	364:42	410:17
54	51:02	44	69.236 L	115:24	173:05	230:47	288:29	346:11	403:53	461:34	519:16
60	65:40	40	85.476 L	142:28	213:41	284:55	356:09	427:23	498:37	569:50	641:04

#### D. TV Survey

1. TV survey and cleaning shall be performed on all gravity sewers.
2. Hydraulic cleaning and vacuum must be done prior to TV survey.
3. TV survey must be of dry pipe.
4. TV survey shall be Pipe Assessment Certification Program (PACP) level of quality and TV equipment must include a slope-inclinometer.
5. Acceptance of TV survey, completed sewers, and the repairs needed are to be determined at sole discretion of LFUCG.
6. TV survey shall include:
  - a. Video file and shall be re-named to LFUCG's assets.
  - b. PACP database must be in Microsoft Access format, version 4.4.2 which includes photos embedded in database.

- c. Report shall be provided in electronic version in PDF format.
- E. The Contractor shall furnish suitable test plugs, water pumps, and appurtenances, and all labor required to properly conduct the tests. Suitable bulkheads shall be installed, as required, to permit the test of the sewer. The Contractor shall construct weirs or other means of measurements as may be necessary.
- F. Should the sections under test fail to meet the requirements, the Contractor shall do all work of locating and repairing the leaks and retesting as the Engineer may require without additional compensation.

END OF SECTION



**SECTION 02540 – PIPE ABANDONMENT**

**PART 1 - GENERAL**

**1.01 THE REQUIREMENT**

- A. This Section covers pipe abandonment procedures. The Contractor shall furnish all labor, materials and equipment to abandon pipe as described here or as shown on the Drawings.
- B. Unless otherwise indicated, pipes 18-inches and larger which are located under pavement with public access shall be safeloaded. All other abandoned sewer pipe shall be plugged.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 02225 – Excavating, Backfilling, and Compacting
- B. Section 02240 - Dewatering

**PART 2 – PRODUCTS**

**2.01 LEAN CONCRETE**

- A. Fill shall be a flowable, lean mix of concrete and sand, by the mix given as follows, per cubic yard batch:

Cement	30 pounds
Fly Ash, Class F	300 pounds
Natural Sand (S.S.D.)	3,000 pounds
Water (Maximum)	550 pounds

**PART 3 - EXECUTION**

**3.01 SAFeload**

- A. The Contractor shall safeload the pipe by utilizing the lean concrete mix as described in paragraph 2.01 of this specification.

**3.02 PLUG**

- A. The Contractor shall expose and cut the pipeline where shown or directed and construct a minimum 9-inch thick 3,000 psi concrete plug at the pipe openings. Approved mechanical plug may be used in lieu of the concrete plug.

END OF SECTION

## SECTION 02608 – MANHOLES

### PART 1 - GENERAL

#### 1.01 SUMMARY

- A. The Contractor shall furnish all labor, material, and equipment necessary to construct manholes for sanitary storm sewers, including steps, frames, and covers, together with all appurtenances as shown and detailed on the Drawings and specified herein. Manhole materials shall be precast concrete.

#### 1.02 DEFINITIONS

- A. **Standard Manhole:** A standard manhole is defined as any manhole that is greater than 5 feet in depth, as measured from the invert of the manhole base at its center to the top (rim) of the manhole cover.
- B. **Shallow Manhole:** A shallow manhole is defined as any manhole that is 5 feet or less in depth, as measured in the preceding sentence.

### PART 2 - PRODUCTS

#### 2.01 CONCRETE MANHOLES - GENERAL

- A. Manholes shall conform in shape, size, dimensions, materials, and other respects as shown on the Drawings or specified herein.
- B. All concrete manholes shall have precast reinforced concrete developed bases. No other type of base will be allowed. Invert channels shall be factory constructed when the base is made. Sloping invert channels shall be constructed whenever the difference between the inlet and outlet elevation is 2 feet or less.
- C. The concrete manhole walls (barrels and cones) and base shall be precast concrete sections manufactured with **cementitious crystalline admixture at dosage of 3.5% by weight of cement**. The cementitious crystalline admixture shall be **Xypex C-1000 RED, KIM K-301, or Crystal-X Admix-R**. The top of the cone shall be built of reinforced concrete to allow adjustment rings to be added for adjustment of the frame to meet the finished surface. Minimum strength of the concrete for the precast sections shall be 4,000 psi at the time of shipment.
- D. **Manholes that receive sewage from a force main discharge, and within 2,000 LF downstream or to the nearest manhole beyond the 2,000 LF, shall have concrete admixture ConShield (in addition to the cementitious crystalline admixture listed in paragraph 2.01.C above), or approved equal.**
- E. Manholes located in the 100-year floodplain shall have a concrete base that includes an anti-flotation collar. The collar shall have a radius 6-inches larger than the exterior wall of the base section.
- F. For concrete manholes, the inverts of the developed bases shall conform accurately to the size of the adjoining pipes. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius which is tangent, within the manhole, to the centerlines of adjoining pipelines.
- G. For concrete manholes, the cast iron frames and covers shall be the standard frame and cover as indicated on the LFUCG Standard Drawings.

- H. Manholes shall be manufactured by Sherman Dixie, Oldcastle Precast or approved equal.

## **2.02 PRECAST CONCRETE SECTIONS**

- A. Precast concrete sections and appurtenances shall conform to the ASTM Standard Specifications for Precast Reinforced Concrete Manhole Sections, Designation C478, latest revision, with the following exceptions and additional requirements.
- B. The base section shall be monolithic for 4-foot and 5-foot diameter manholes. Manholes with diameter of 6 feet or larger shall have a monolithic base or base slab.
- C. The wall sections shall be not less than 5 inches thick.
- D. Type II or type III cement shall be used except as otherwise permitted.

## **2.03 CONCRETE MANHOLE - FRAMES AND COVERS**

- A. The Contractor shall furnish all cast iron manhole frames and covers as shown in LFUCG Standard Drawings.
- B. Castings shall be designed for H-20 traffic loading.
- C. The castings shall be of good quality, strong, tough, evengrained cast iron, smooth, free from scale, lumps, blisters, sandholes, and defects of every nature which would render them unfit for the service for which they are intended. Contact surfaces of covers and frame seats shall be machined to prevent rocking of covers.
- D. Frames shall be set in mastic and bolted down in non-traffic areas with four  $\frac{3}{4}$ " SS Hilti anchor bolts and washers. Hilti anchor bolts shall be embedded a minimum of 4-inches into precast concrete cone section. In traffic areas, the frame shall be set in mastic and Class A concrete donut poured around frame to the top of concrete cone section. The concrete donut shall be 12-inches in width and in depth up to within 1  $\frac{1}{2}$ -inches of surface for bituminous asphalt pavement.
- E. All casting shall be thoroughly cleaned and subject to a careful hammer inspection.
- F. Castings shall be at least Class 25 conforming to the ASTM Standard Specifications for Gray Iron Casting, Designation A48, latest revision.
- G. Unless otherwise specified, manhole covers shall be 22-3/4 inches in diameter, weighing not less than 305 pounds per frame and cover. Manhole covers shall set neatly in the rings, with contact edges machined for even bearings and tops flush with ring edge. They shall have sufficient corrugations to prevent slipperiness. The covers shall have two (2) pick holes about 1-1/4 inches wide and 1/2 inch deep with 3/8-inch undercut all around. Covers shall not be perforated. Frames and covers shall be J.R. Hoe and Sons Mc-350, or approved equal.
- H. Watertight lids shall have neoprene T-gasket and concealed pickhole.
- I. All covers shall be marked in large letters "LEXINGTON KENTUCKY SANITARY SEWER" as shown in LFUCG Standard Drawings.

## **2.04 MANHOLE STEPS (CONCRETE MANHOLES)**

- A. Manholes steps shall be the polypropylene plastic type reinforced with a 1/2 inch diameter deformed steel rod. The step shall be 10-3/4 inches wide and extend 5-3/4 inches from the manhole wall. Steps shall line up over the downstream invert of the manhole. The steps shall be embedded into the manhole wall a minimum of 3-3/8 inches. Steps shall be uniformly spaced at 12-inch to 16-inch intervals.
- B. Manhole steps shall be in accordance with LFUCG Standard Drawings.

## **2.05   PREMOLDED ELASTOMERIC-SEALED JOINTS**

- A. All holes for pipe connections in concrete barrels and bases shall have a factory-installed flexible rubber gasket to prevent infiltration. The manhole boots shall conform to the latest revision of ASTM-C923. The boots shall be A-Lok Manhole Pipe Seal A-Lok Premium manufactured by A-Lok Corporation, Trenton, NJ; or an approved equal.

## **2.06   MANHOLE DIAPHRAGM (FOR WATERTIGHT LID APPLICATIONS)**

- A. Diaphragm manhole inserts shall be manufactured from corrosion-proof material suitable for atmospheres containing hydrogen sulfide and diluted sulfuric acid. Diaphragm shall be installed in manholes susceptible to inflow as indicated on the Drawings.
- B. The body of the manhole insert shall be made of high density ethylene hexene-1 copolymer material meeting ASTM Specification D 1248, Class A, Category 5 (the insert shall have a minimum impact brittleness temperature of -180 degrees Fahrenheit). The thickness shall be uniform 1/8 inch or greater. The manhole insert shall be manufactured to dimensions as shown on the Drawings to allow easy installation within the manhole frame.
- C. Gaskets shall be made of closed cell neoprene. The gasket shall have a pressure sensitive adhesive on one side and shall be placed under the weight bearing surface of the insert by the manufacturer. The adhesive shall be compatible with the manhole insert material so as to form a long lasting bond in either wet or dry conditions.
- D. Lift strap shall be attached to the rising edge of the bowl insert. The lift strap shall be made of 1 inch wide woven polypropylene web and shall be seared on all cut ends to prevent unraveling. The lift strap shall be attached to the manhole insert by means of a stainless steel rivet. Location of the lift strap shall provide easy visual location.
- E. Standard ventilation shall be by means of a valve or vent hole. Vent holes shall be on the side wall of the manhole insert approximately 3/4 inch below the lip. The valve or vent hole will allow a maximum release of 5 gallons per 24 hours when the insert is full.
- F. The manhole insert shall be manufactured to fit the manhole frame rim upon which the manhole cover rests. The Contractor is responsible for obtaining specific measurements of each manhole cover to insure a proper fit. The manhole frame shall be cleaned of all dirt, scale and debris before placing the manhole insert on the rim.
- G. Diaphragm shall be Rainstopper manufactured by Rainstopper, Inc. in color white, or approved equal.

## **2.07   CLEANOUTS**

- A. Cleanouts shall be cast iron and extend to the finish grade and capped with a clean-out plug in accordance with details and at locations shown on the Drawings. Pipe shall be the same size as the gravity sewer line in which the cleanout is located. A 4-inch thick concrete pad, with 6" x 6", 1.9 x 1.9 wire mesh, 24 inches square, with the valve box lid section, shall be provided around each cleanout.

- B. Cleanouts shall be in accordance with LFUCG Standard Drawings.

## **2.08 DROP CONNECTIONS**

- A. Drop connections shall be installed on exterior of manhole as shown on the LFUCG Standard Drawings. The pipe material inside the drop manhole shall be of the same material as the sanitary sewer line.
- B. All outside drop manholes are to be precast. No field casting of drop manholes shall be allowed unless directed by the Engineer.
- C. Drop invert shall be at the springline of the mainline pipe.

## **2.09 EXTERNAL SEALS**

- A. All manhole section joints shall receive an external seal. The external seal shall be installed per the manufacturer recommendations and shall meet ASTM C 877 (Type II) and have Type 316 stainless steel ratcheting straps. External seals shall be MARMAC MacWrap for manholes with straps.

## **PART 3 - EXECUTION**

### **3.01 FABRICATION - PRECAST SECTIONS**

- A. Manhole sections shall contain manhole steps accurately positioned and embedded in the concrete when the section is cast.
- B. All precast concrete manhole sections shall be cured in a manner to assure the highest quality:
  - 1. Results of initial set tests (per ASTM C 403) shall be provided upon request. New test will be run in the event of change of cement supplier, mix design, or as otherwise necessary to maintain a quality product.
  - 2. Forms on wet-cast concrete shall not be removed until the concrete attains compressive strength equal to 2500 psi based upon field-cured cylinders, cured under conditions which equal the most severe conditions to which the product is exposed.
  - 3. Test cylinders for determining "shipping strength" shall be cured with similar methods as the product that they represent. In lieu of actual curing with the product, cylinders may be cured in curing chambers correlated in temperature and humidity with the product conditions.
  - 4. Any precast concrete manhole section which freezes before attaining 500 psi compressive strength will be rejected.
- C. No more than two (2) lifting hooks may be cast or drilled in each section.
- D. Flat slab tops shall have a minimum thickness of 6 inches and reinforcement in accordance with ASTM C478.
- E. The date of manufacture and the name or trademark of the manufacturer shall be clearly marked on the precast sections.
- F. Acceptance of the sections will be on the basis of material tests and inspection of the completed product and test cylinders if requested by the Engineer.
- G. Cones shall be precast sections of similar construction.
- H. It shall be the responsibility of the precast manufacturer to handle all materials in such a

manner as to avoid all damage to the product before and during delivery. This damage is defined as, but is not limited to, structural or spiderweb cracking, chips, spalls, pop-outs, or other damage.

- I. All precast concrete manhole sections shall be stored in a manner that will maintain product quality, as well as provide damage protection from yard traffic. All concrete pipe greater than 36" in diameter shall be "stulled" with a minimum of two each, 4" x 4" wood posts providing vertical support during storage. This requirement shall apply both at the manufacturer's storage yard and on the jobsite.
- J. No precast concrete manhole sections shall be delivered to a jobsite or transported from the facility of origin until adequate quality and maturity has been attained, as described in these specifications.
  1. All precast concrete manhole sections shall be a minimum age of 7 days.
  2. All precast concrete manhole sections shall attain compressive strength equal to 4000 psi.
  3. No precast concrete manhole sections shall be delivered without Certification. Any product delivered without acceptable Certification will be subject to rejection.

### **3.02 SETTING PRECAST MANHOLE SECTIONS**

- A. Precast-reinforced concrete manhole sections shall be set so as to be vertical and with sections and steps in true alignment.
- B. Butyl mastic sealant shall be installed in all manhole joints in accordance with the manufacturer's recommendations and as shown in LFUCG Standard Drawings. Butyl mastic sealant shall meet Federal Spec SS-S-210A, AASHTO M-19875I, and ASTM C990. Butyl mastic sealant shall be NPC Bidco C-56 as manufactured by Trelleborg Engineered Systems, or approved equal. Sealant shall be a minimum bead of 1 inch in rope configuration.
- C. All manhole section joints shall receive an external seal. The external seal shall be installed per the manufacturer recommendations and shall meet ASTM C 877 (Type II) and have Type 316 stainless steel ratcheting straps. External seals shall be MARMAC MacWrap for manholes with straps.
- D. All holes in sections used for their handling shall be thoroughly plugged with rubber plugs made specifically for this purpose.

### **3.03 ADJUSTING MANHOLE FRAMES AND COVERS TO GRADE**

- A. Except where shown on the Drawings, the top of the precast concrete eccentric cone of a standard manhole or the top of the flat slab of a shallow manhole shall terminate 6 inches below existing grade in an unpaved non-traffic area except in a residential yard and 13 inches below existing grade in a paved or unpaved traffic area and in a residential yard. The remainder of the manhole shall be adjusted to the required grade.
- B. When a manhole is located in an unpaved non-traffic area other than in a residential yard, the frame and cover shall be adjusted to an elevation 1 inch above the existing grade at the center of the cover. If field changes have resulted in the installed manhole invert elevation to be lower than the invert elevation shown on the Drawings, the adjustment to an elevation of 1 inch above existing grade shall be accomplished by the use of precast concrete or cast iron adjusting rings. The area around the adjusted frame and cover shall be filled with the required material, sloping it away from the cover at a grade of 1 inch per foot.
- C. When a manhole is located in a bituminous, concrete, or crushed stone traffic area, or in a residential yard, the frame and cover shall be adjusted to the grade of the surrounding area

### **3.04 REPAIRS TO STORMWATER PIPE**

- A. Repairs to stormwater pipe shall be made using pipe manufactured of similar materials to the existing pipe and similar inside and outside dimensions.
- B. Connections between new and existing stormwater pipe shall use a Fernco Strong Back, Straub-Flex coupling, Arpol or approved equal.
- C. A concrete collar 8 inches in thickness shall be poured around the coupling. The length of the collar (longitudinally along the pipe) shall be at least one pipe diameter and centered on the coupling. Collars shall be formed and poured in place around the full circumference of the pipe.
- D. Repairs using dissimilar materials must be approved by the Engineer in advance of the repair.
- E. Upon completion of repairs as specified above, the interior and exterior of the pipe shall be visually inspected for acceptance.

END OF SECTION

## **SECTION 02650 - SEWER LINE CLEANING**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Furnish all labor, materials, equipment and incidentals required to clean all sewer pipe, laterals and fittings installed and/or rehabilitated, as specified herein.
- B. Cleaning shall include the proper high pressure water jetting, rodding, snaking, bucketing, brushing and flushing of sewers, laterals, and manholes prior to inspection by closed circuit television, pipeline rehabilitation or replacement, point repairs, manhole preparation, and testing operations.
- C. Cleaning shall dislodge, transport and remove all sludge, mud, sand, gravel, rocks, bricks, grease, roots, sticks, and all other debris from the interior of the sewer pipe and manholes as required for pipeline rehabilitation.

### **PART 2 - PRODUCTS**

#### **2.01 MATERIALS**

- A. Hydraulically propelled Sewer Cleaning Equipment
  - 1. Hydraulically propelled sewer cleaning equipment shall be the movable dam type constructed such that a portion of the dam may be collapsed during cleaning to prevent flooding of the sewer.
  - 2. The movable dam shall be the same diameter as the pipe being cleaned and shall provide a flexible scraper around the outer periphery to ensure total removal of grease.
  - 3. Contractor shall take precautions against flooding prior to using sewer cleaning balls or other such equipment that cannot be collapsed instantly.
- B. High Velocity Hydro-Cleaning Equipment shall have the following:
  - 1. A minimum of 500-ft of high pressure hose.
  - 2. Two or more high velocity nozzles capable of producing a scouring action from 15 to 45 degrees in all size lines to be cleaned.
  - 3. A high velocity gun for washing and scouring manhole walls and floor.
  - 4. Capability of producing flows from a fine spray to a long distance solid stream.
  - 5. A water tank, auxiliary engines and pumps and a hydraulically driven hose reel.
  - 6. Equipment operating controls located above ground.
- C. Mechanical cleaning equipment for sewer mains shall be either power buckets or power rodders by the Sewer Equipment Company of America or equal.
  - 1. Bucket machines
    - a. Be furnished with buckets in pairs
    - b. Use V-belts for power transmission or have an overload device. No direct drive



machines will be permitted.

- c. Be equipped with a take up drum and a minimum of 500-ft of cable.
  - d. Have sufficient dragging power to perform the work efficiently.
2. Power rodding machine
    - a. Either sectional or continuous.
    - b. Hold a minimum of 750-ft of rod.
    - c. The machine shall have a positive rod drive to produce 2000 pounds of rod pull.

### **PART 3 - EXECUTION**

#### **3.01 PERFORMANCE**

- A. Selection of cleaning equipment shall be based on the conditions of the manholes and lines at the time the work commences based on the pre-construction CCTV inspection to be conducted by the Contractor under this Contract.
- B. Use properly selected equipment to remove all dirt, grease, rock and other deleterious materials and obstructions.
- C. Protect existing sewer lines from damage caused by improper use of cleaning equipment.
- D. Take precautions to avoid damage or flooding to public or private property being served by the line being cleaned.
- E. Use sewage flow in the sewer lines to provide necessary pressures for hydraulic cleaning devices whenever possible.
- F. Removal of Materials
  1. Remove all solids and semi-solids at the downstream manhole of the section being cleaned.
  2. Passing material from one section of a line to another will not be permitted.
- G. Remove from the site and properly dispose of all solids or semi-solids recovered during the cleaning operation.
- H. No sewer cleaning shall take place in a particular sewer segment until all upstream pipe segments have been cleaned. If cleaning is done in a downstream pipe segment in order to facilitate overall cleaning operations, the segment shall be re-cleaned at no additional cost, after all pipes upstream of that segment have been cleaned.

#### **3.02 FIELD QUALITY CONTROL**

- A. Acceptance of this portion of the work shall be dependent upon the results of the television inspection. Lines not acceptably clean as to permit television inspection and rehabilitation shall be re-cleaned and re-inspected at no additional cost to the Owner.

### **3.03 FINAL SEWER CLEANING**

- A. Prior to final inspection and acceptance of each manhole-to-manhole section of the sewer system by the Engineer, the sewer shall be cleaned. Remove all accumulated construction debris, rocks, gravel, sand, silt and other foreign material from the sewer system. Once the large debris is removed, the sewer shall be flushed.
- B. Following final cleaning, the Contractor shall inspect each manhole-to-manhole section in accordance with Specifications Section 2651 – Television Inspection.
- C. Upon the Engineer's final manhole-to-manhole inspection of the sewer system, if any foreign matter is still present in the system, clean the sections and portions of the lines as required.
- D. Place the new line in service as soon as is practical after acceptance by the Engineer.

END OF SECTION

## **SECTION 02651 - TELEVISION INSPECTION**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Furnish all necessary labor, materials, equipment, services and incidentals required to visually inspect by means of closed-circuit television (CCTV) designated sewer line sections and sewer laterals, including, but not limited to, recording and playback equipment, materials and supplies.
- B. The inspection shall be performed on one sewer line section (i.e. manhole to manhole) or one sewer lateral (i.e. sewer main toward property) at a time. The section being inspected shall be suitably isolated from the remainder of the sewer system.
- C. Video recordings shall be made of the television inspections and copies of both the recordings and printed inspection logs shall be supplied to the Owner.
- D. Contractor may have to perform point repairs, remove obstructions or remove protruding service connections to complete pre-rehabilitation TV inspection.

### **PART 2 - PRODUCTS**

#### **2.01 EQUIPMENT**

- A. The television camera used for sewer main inspection shall be one specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe. The camera, television monitor and other components of the video system shall be capable of producing a minimum 500-line resolution color video picture. Picture quality and definition shall be to the satisfaction of the Engineer and if unsatisfactory, inspection shall be performed again with the appropriate changes made as designated by the Engineer at no additional cost to the Owner. The television inspection equipment shall have an accurate footage counter that shall display on the monitor, the exact distance of the camera from the centerline of the starting manhole.

### **PART 3 - EXECUTION**

#### **3.01 PROCEDURE**

- A. The camera shall be moved through the sewer main in either direction at a uniform rate, stopping when necessary to ensure proper documentation of the sewer's condition but in no case will the television camera be pulled at a speed greater than 30 fpm. Manual winches, power winches, TV cable and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line. If, during the inspection operation, the television camera will not pass through the entire sewer line section, the equipment shall be removed and repositioned in a manner so that the inspection can be performed from the opposite manhole. All set-up costs for the inspection shall be included in the unit prices bid. If, again, the camera fails to pass through the entire section, the Contractor shall perform point repairs as required on the Drawings, remove or cut protruding service connections, or re-clean or further remove roots or blockage at no additional cost to the Owner.
- B. Whenever non-remote powered and controlled winches are used to pull the television camera through the line, telephones, radios, or other suitable means of communication shall be set up between the two manholes of the sewer line being inspected to ensure that good communications exist between members of the crew.

- C. Measurement for location of defects shall be above ground by means of a meter device. Marking on cable, or the like, which would require interpolation for depth of manhole, shall not be allowed. Measurement meters shall be accurate to two-tenths of a foot over the length of the sewer line section being inspected. Accuracy of the measurement meters shall be checked daily by use of a walking meter, roll-a-tape, or other suitable device, and the accuracy shall be satisfactory to the Owner's representative.
- D. The camera height shall be adjusted such that the camera lens is always centered (1/2 I.D. or higher) in the pipe being televised. Flow shall be controlled such that depth of flow shall not exceed 20% of pipe's diameter.
- E. Lighting system shall be adequate for quality pictures.

### **3.02 RECORDING OF FIELD OBSERVATIONS**

#### **A. Television Inspection logs**

1. Printed location records shall be kept which shall clearly show the location, in relation to adjacent manholes, of each source of infiltration discovered. In addition, other data of significance including the locations of building and house service connections, along with an estimation of infiltration from such services, joints, unusual conditions, roots, storm sewer connections, cracked or collapsed sections, presence of scale and corrosion, sewer line sections that the camera failed to pass through and reasons for the failure and other discernible features shall be recorded and annotated using the PACP system and a copy of such records shall be supplied to both the Owner and the Engineer.

#### **B. Digital Recordings**

1. The purpose of digital recording shall be to supply a visual and audio record of areas of interests of the pipe segments that may be replayed by the Owner. Digital recording playback shall be at the same speed that it was recorded and shall be made in color. The Contractor shall be required to have all digital media and necessary playback equipment readily accessible for review by the Owner/Engineer during the project.
2. The Contractor shall perform CCTV inspection of each newly installed or rehabilitated pipe segment (manhole to manhole) after testing and before re-introducing any sewage flow into the pipe. Each test shall be witnessed by the Engineer and/or Owner.
3. The Contractor shall record each CCTV inspection on a DVD and submit such recordings to the Engineer as a prerequisite for Partial Utilization/Substantial Completion.
4. CCTV inspections shall be performed after all backfill has been placed and final grades have been established, and after all manhole and pipe testing has been performed and approved by the Engineer.
5. CCTV inspections shall be performed by a PACP certified and trained person.
6. Inspections shall include narration that notes the location and type of defects, if any.
7. At the completion of the project, the Contractor shall furnish all of the original digital recordings to the Owner. Each disc shall be labeled as to its contents. Labels shall include the disc number, date televised, sewer segment reach designation, street location, and manhole numbers on the disc. The Contractor shall keep a copy of the discs for 30 days after the final payment for the project, at which time the discs may be erased at the Contractor's option.

END OF SECTION

**SECTION 02700 - ASPHALTIC CONCRETE PAVING**

**PART 1 - GENERAL**

**1.01 SCOPE OF WORK**

- A. The asphalt concrete paving replacement work includes the construction of an aggregate base course, asphalt binder and wearing courses to match existing courses and as specified herein. This work is to replace paving disturbed by the construction and any damages to paving by Contractor's operations, as well as new pavement and driveways, within the limits shown on the plans.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. The general provisions of the Contract apply to the Work specified in this Section.
- B. Section 02225 – Excavating, Backfilling and Compacting for Sewers

**PART 2 - PRODUCTS**

**2.01 MATERIALS**

- A. All roads in Fayette County shall be constructed in accordance with the following sections of the Kentucky Transportation Cabinet's (KTC) Standard Specifications for Road and Bridge Construction. Items not covered by the KTC specifications shall require a special design by the Engineer and shall be approved by LFUCG.

1. Embankment	Division 200
2. Excavation	Division 200
3. Subgrade	Division 200
4. Dense Graded Aggregate	Division 300
5. Bituminous Concrete	Division 400
6. Concrete Paving	Division 500
7. Chemical Stabilization	Division 200

**2.02 SUBGRADE**

- A. The subgrade shall be free from ruts, large stones, and excessive dust. The subgrade shall be subjected to a subgrade proof-roll test so that soft, wet, or pumping areas may be identified. The minimum total weight of the loaded dump truck shall be 37 tons. The truck shall be operated at walking speed over the entire subgrade. Any excessive deflections such as rutting or pumping shall be stabilized as directed by the Engineer.
- B. Typical treatments of soft or wet areas of the pavement subgrade include removal and replacement (undercutting), "working-in" No. 2 stone, or installation of a geogrid/geotextile system and crushed stone. The extent and performance requirements of such improvements shall be set forth in the Contract Documents or as directed by the Engineer. Other means to stabilize the subgrade such as lime stabilization or cement modification as described in KTC Section 304, may be necessary.

- C. The pavement subgrade shall be compacted to a uniform density throughout according to the requirements of the Contract Documents. If the density of the subgrade has been diminished by exposure or weather, after having been previously compacted, it shall be recompactd to the required density and moisture content.
- D. Subgrade drainage systems or perforated pipe underdrains shall be installed in accordance with LFUCG Standard Drawings where indicated on the Improvement Plans.

### **2.03 GRANULAR BASE COURSE**

- A. The granular base course shall consist of compacted dense-graded aggregate (DGA) meeting the requirements set forth in Kentucky Transportation Cabinet's (KTC) Standard Specifications for Road and Bridge Construction. The Contractor shall submit to the Engineer the results of physical tests performed on the material to verify that it meets the requirements referenced above.
- B. The DGA shall be applied in thicknesses of no less than 3 inches and no more than 6 inches in thickness. Each lift of DGA shall be compacted to a density no less than 84 percent of the solid volume density based on the oven-dry bulk specific gravity as determined by KM 64-607. A field density test of DGA placement may be required if deemed necessary by Engineer. The tests shall be conducted at a frequency of one test per 2,000 square feet with a minimum of one test per shift during which DGA is placed. The DGA shall be compacted using a vibratory roller or vibratory plate. The DGA shall be placed to achieve a moisture content less than 5%, and shall be stable with no rutting or pumping.
- C. Before arriving at the site, the DGA shall be adequately mixed with water in a pugmill. During transportation and storage on site, the DGA shall be covered to prevent loss of moisture. If drying of the DGA occurs, the Contractor shall add water to the DGA and shall thoroughly mix the material before its placement.

### **2.04 ASPHALT BASE AND SURFACE COURSES**

- A. The materials and methods for construction for the asphalt base course and surface course shall meet the requirement of Kentucky Transportation Cabinet's (KTC) Standard Specifications for Road and Bridge Construction. The Contractor shall submit test results of the aggregate gradation and asphalt content to the Engineer.
- B. The pavement course thicknesses and construction tolerances shall be specified in the Contract Documents. The surface of each course shall be checked with templates, straightedges, and/or stringlines for uniformity. All irregularities exceeding the allowable tolerances must be repaired as required by the Contract Documents or as directed by the Engineer.

### **2.05 TACK COAT**

- A. The tack coat shall be type SS-1h. Before applying the tack coat the area to receive pavement shall be cleaned. The tack coat shall be applied well in advance of the paving operation to allow all water to evaporate before the surface course is placed. Work shall be planned so that no more tack coat than is necessary for the day's operation is placed on the surface.

END OF SECTION

## **SECTION 02765 - CURED-IN-PLACE PIPE LINING**

### **PART 1 - GENERAL**

#### **1.01 REQUIREMENTS**

- A. It is the intent of this specification to provide for the reconstruction of pipelines and casing pipe by the installation of a resin-impregnated flexible tube which is formed to the original conduit and cured to produce a continuous and tight fitting Cured-In-Place Pipe (CIPP). Cured-In-Place Pipe shall be designed for wastewater application.
- B. The work specified in this Section includes all labor, materials, accessories, equipment and tools necessary to install and test cured-in-place (CIPP) pipe lining as shown on the Drawings and as specified herein.

#### **1.02 SUBMITTALS**

- A. The Contractor shall submit shop drawings and other information to the Owner for review in accordance with Section 01300, "Submittals".
- B. With the bid, the following submittals are required:

Documentation as outlined herein under paragraph 1.06 A, including installation references of projects that are similar in size and scope to this project. The submittal shall include, at a minimum, the client contact name, phone number, and the diameter and footage of pipe rehabilitated. Documentation for product and installation experience must be satisfactory to the Owner.

- C. After contract award, the following submittals are required.
  - 1. The Contractor shall submit design data and specification data sheets listing all parameters used in the CIPP design and thickness calculations based on ASTM F1216 or F2019 and D2412 for "fully deteriorated gravity pipe conditions." All CIPP liner design calculations shall be sealed and signed by a registered professional Engineer in the Commonwealth of Kentucky. Submit P.E. certification form for all CIPP design data. Submit detailed installation procedures, lining production schedule and location, testing procedures and schedule, quality control procedures, liner curing procedures including heat-up and cool-down rates, curing temperature and duration, and shipping and storage requirements, schedule and procedures. Detailed design calculations as specified herein under paragraph 2.01 Q.
  - 2. Various test results as specified herein under Section 2.03.
  - 3. Documentation as specified herein for the Cure Report under Paragraph 3.08 A.
  - 4. Documentation as specified herein for the Television Survey under Paragraph Section 3.10 Television Survey.
- D. Curing log, including temperatures, pressures, and times during the curing process to document that a proper cure has been achieved. Curing log is to be submitted immediately after the curing is complete for each line segment that is rehabilitated.

#### **1.03 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 02650 – Sewer Line Cleaning

B. Section 02651 – Television Inspection of Pipelines

**1.04 REFERENCE STANDARDS**

A. American Society for Testing and Materials (ASTM)

1. ASTM D638 – Standard Test Methods for Tensile Properties of Plastics.
2. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
3. ASTM D2412- Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
4. ASTM D2990 – Standard Test Methods for Tensile, Compressive and Flexural Creep and Creep-Rupture of Plastics.
5. ASTM F1216 - Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.
6. ASTM F1743 – Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP).
7. ASTM F2019 – Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled in Place Installation of Glass Reinforced Plastic (GRP) Cured-in-Place Thermosetting Resin Pipe (CIPP)
8. ASTM E1252 - Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis

B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

**1.05 QUALIFICATIONS**

A. The Contractor performing the CIPP lining work shall be fully qualified, experienced and equipped to complete this work expeditiously and in a satisfactory manner and shall be certified and/or licensed as an installer by the CIPP manufacturer. Only commercially proven products and installers with substantial track records will be approved. In addition the Contractor shall meet the following requirements:

1. The Contractor shall have minimum of 10,000 LF of CIPP successfully installed of similar diameter and using the specific method of installation and curing being used.
2. The Contractor shall submit a certified statement from the manufacturer that he/she is a certified and/or licensed installer of the CIPP lining.
3. A minimum of three municipal clients that the Contractor has performed this type of work for, including names, phone numbers, linear footage, and a description of the actual work performed.
4. The Contractor's superintendent who will perform the work under this section must have at least 3 years of experience and have successfully installed at least 5,000 linear feet 24-inch diameter or greater of the proposed product and curing method.

B. The Contractor shall also be capable of providing crews as needed to complete the work without undue delay.



- C. The Owner shall approve or disapprove the Contractor and/or manufacturer based on the submitted information and a follow up interview, if warranted.
- D. Inspection of the liner may be made by the representative of the Owner after delivery. The liner shall be subject to rejection at any time on account of failure to meet any of the requirements specified, even though sample liner may have been accepted as satisfactory at the place of manufacture. Liner rejected after delivery shall be marked for identification and shall be removed from the job site at once.
- E. Sewer rehabilitation products submitted for approval must provide third party test results supporting the long term performance and structural strength of the product and such data shall be satisfactory to the Owner. Test samples shall be prepared so as to simulate installation methods and trauma of the product. No product will be approved without independent third party testing verification.

#### **1.06 GUARANTEE**

- A. All CIPP lining placed shall be guaranteed by the Contractor and manufacturer for a period of one year from the date of final acceptance. During this period, defects discovered in the CIPP lining, as determined by the Owner, shall be removed and replaced in a satisfactory manner by the Contractor at no cost to the Owner. The Owner may conduct an independent television inspection, at his own expense, of the lining work prior to the completion of the one year guarantee period.

#### **1.07 DELIVERY, STORAGE AND HANDLING**

- A. Care shall be taken in shipping, handling and storage to avoid damaging the liner. Extra care shall be taken during cold weather construction. Any liner damaged in shipment shall be replaced as directed by the Owner.
- B. Any liner showing a split or tear, or which has otherwise received damage shall be marked as rejected and removed at once from the job site.
- C. The liner shall be maintained at a proper temperature in refrigerated facilities to prevent premature curing at all times prior to installation. The liner shall be protected from UV light prior to installation. Any liner showing evidence of premature curing will be rejected for use and will be removed from the site immediately.

### **PART 2 - PRODUCTS**

#### **2.01 CIPP LINING**

- A. CIPP lining shall be Insituform by Insituform Technologies, Inliner by Inliner Technologies, Premier Pipe, Blue-Tek by Reline America, or approved equal.
- B. The sewn tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216 or ASTM F1743, Section 5. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge breaks and missing sections of the existing pipe, and stretch to fit irregular pipe sections. The new jointless pipe-within-a-pipe must fit tightly against the old pipe wall and consolidate all disconnected sections into a single continuous conduit, substantially reducing or eliminating infiltration or exfiltration.
- C. The wetout tube shall have a uniform thickness that when compressed at installation pressures will meet or exceed the Design thickness.

- D. The tube shall be sewn to a size that when installed will tightly fit the internal circumference and length of the original pipe with minimal shrinkage, in such a way as to minimize water migration (tracking) between the liner and the host pipe. Allowance should be made for circumferential stretching during inversion, and longitudinal stretching during pull in. Overlapped layers of felt in longitudinal seams that cause lumps in the final product shall not be utilized.
- E. The minimum tube length shall be that deemed necessary by the Contractor to effectively span the distance between the access points and to facilitate a good, "non-tracking" seal. The Contractor shall verify the lengths in the field before cutting liner to length and otherwise preparing it for installation.
- F. The outside layer of the tube (before wetout) shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wetout) procedure.
- G. The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.
- H. The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.
- I. Seams in the tube shall be stronger than the unseamed felt.
- J. The outside of the tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 ft. Such markings shall include the Manufacturers name or identifying symbol. The tubes shall be manufactured in the USA.
- K. The resin system shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst system that when properly cured within the tube composite meets the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the Design of the CIPP for this project. The resin shall produce CIPP which will comply with the structural and chemical resistance requirements of this specification.
- L. The finished pipe in place shall be fabricated from materials which when cured will be chemically resistant to withstand internal exposure to domestic sewage. All constituent materials will be suitable for service in the environment intended. The final product will not deteriorate, corrode or lose structural strength that will reduce the projected product life. In industrial areas a liner system using epoxy vinyl ester resin shall be utilized and a polyester resin shall be used in non-industrial areas. The Owner shall determine the type of appropriate resin to be utilized for each line segment.
- M. The CIPP shall be designed as per ASTM F1216, Appendix X1. The CIPP design shall assume no bonding to the original pipe wall. The structural performance of the finished pipe must be adequate to accommodate all anticipated loads throughout its design life.
- N. The CIPP must have a minimum design life of fifty (50) years. The minimum design life may be documented by submitting life estimates by national and/or international authorities or specifying agencies. Otherwise, long-term testing and long-term in-service results (minimum ten (10) years) may be used, with the results extrapolated to fifty (50) years.
- O. The Contractor must have performed long-term testing for flexural creep of the CIPP pipe material installed by his company. Such testing results are to be used to determine the long-term, time dependent flexural modulus to be utilized in the product design. This is a performance test of the materials (tube and resin) and general workmanship of the installation and curing. A percentage of the instantaneous flexural modulus value (as

measured by ASTM D-790 testing) will be used in design calculations for external buckling. The percentage, or the long-term creep retention value utilized, will be verified by this testing. Values in excess of 50% will not be applied unless substantiated by qualified third party test data. The materials utilized for the contracted project shall be of a quality equal to or better than the materials used in the long-term test with respect to the initial flexural modulus used in design.

- P. The minimum required structural CIPP wall thickness shall be based on the physical and structural properties described herein and in accordance with the design equations in the appendix of ASTM F 1216 or F 2019, and the following design parameters:

Design Safety Factor	2.0
Retention Factor for Long-Term Flexural Modulus to be used in Design ( <i>as determined by Long-Term tests described in paragraph 2.03</i> )	50 %
Ovality*	2 %
Soil Depth (above crown)	Refer to Contract Plans
Design Condition	Fully deteriorated

- Q. The lining manufacturer shall submit to the Owner for review complete design calculations for the liner, signed and sealed by a Professional Engineer registered in the Commonwealth of Kentucky and certified by the manufacturer as to the compliance of his materials to the values used in the calculations. The buckling analysis shall account for the combination of dead load, live load, hydrostatic pressure and grout pressure (if any). The liner side support shall be considered as if provided by soil pressure against the liner. The existing pipe shall not be considered as providing any structural support. Modulus of soil reaction shall be 1000, corresponding to a moderate degree of compaction of bedding and a fine-grained soil as shown in AWWA Manual M45, Fiberglass Pipe Design.
- R. The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any two layers with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. If separation of the layers occurs during testing of field samples, new samples will be cut from the work. Any reoccurrence may cause rejection of the work.
- S. Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe shall not be included in the structural CIPP wall thickness computation.

## 2.02 END SEALS

- A. A watertight seal shall be made at every manhole entrance and exit and all other terminus of the liner. End seals shall be made by using a hydrophilic seal such as Insignia or equal.

## 2.02 STRUCTURAL REQUIREMENTS FOR MAIN LINES

- A. Resin shall be impregnated by vacuum application or approved equal. If reinforcing materials (fiberglass, etc.) are used, the reinforcing material must be fully encapsulated within the resin to assure that the reinforcement is not exposed, either to the inside of the pipe or at the interface of the CIPP and the existing pipe.

- B. The design for the CIPP wall thickness will be based on the following strengths, unless otherwise submitted to and approved by the Owner.

Property	Test Method	Cured Composite per ASTM F1216
Flexural Modulus of Elasticity	ASTM D-790	250,000 psi
Flexural Stress	ASTM D-790	4,500 psi

## 2.03 TESTING REQUIREMENTS

- A. Chemical Resistance - The CIPP shall meet the chemical resistance requirements of ASTM F1216 or F2019. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical testing requirements.
- B. Prior to any liner installation, the Contractor shall submit technical data sheets showing the physical and chemical properties and infrared spectrum analysis per ASTM E1252 (chemical fingerprint) of the proposed resin system as modified for the cured-in-place process. Additionally, copies of the certificates of analysis for resin used on the project must be made available to the Owner.
- C. The Contractor shall provide resin samples as directed by the Owner during the duration of the project and infrared spectrography chemical fingerprints shall be run and compared to the submitted fingerprint to verify the resin used is the resin submitted for use on this project. These analyses shall be conducted at the Owner's expense.
- D. In the case of liner installation performed under this contract, CIPP samples shall be prepared and physical properties tested in accordance with ASTM F1216, F2019, or ASTM F1743, Section 8, using either method proposed.
1. Where the diameter is less than or equal to 15-inches, the samples shall be restrained type samples made by extending the liner through a form with a diameter as close as possible to the existing pipeline. The formed sample shall be provided with insulation to contain cure heat as well as a heat sink such as sand bags for cool down.
  2. Where the diameter is greater than 15-inches, a plate sample shall be prepared. The test sample shall be fabricated from the material taken from the liner and cured in a clamped mold with the resin used in the liner construction placed in the down tube.
  3. Each sample shall be large enough to provide at least five total specimens for testing. One thickness, flexural strength, and flexural modulus shall be conducted in accordance with ASTM F1216, ASTM D790, and ASTM D2290 for each segment. The material must meet the initial strength requirements of ASTM F1216, Table 1.
  4. These samples will be tested to verify compliance with the installed material specifications and shall be paid for by the Owner. The Contractor shall produce these test samples for each pipe segment installed, defined as a contiguous length of insertion. Liners which do not pass these material tests will be rejected. The cost for sample collection shall be included in the bid price for the cured in place pipe.
  5. Test specimens shall be marked in indelible ink with the appropriate lateral or main section, work order number, date of installation, and orientation to the top of the pipe (direction of up) so the results can be correlated to the field work performed. All test results shall use this designated labeling as a reference.

6. The extraction and labeling of test specimens shall be done in the presence of the Owner. The Owner and Contractor shall, upon completion of sample extraction and labeling, both sign a chain-of-custody form that shall subsequently accompany the sample at all times and shall ultimately be received and signed at the testing laboratory. Test reports shall include a copy of the chain-of-custody form with all signatures to ensure that reported test results are for the correct sample.
7. The flexural properties must meet or exceed the values specified herein.
8. Wall thickness of samples shall be determined as described in paragraph 8.1.6 of ASTM F1743.
9. Visual inspection of the CIPP shall be by closed-circuit television.

### **PART 3 -- EXECUTION**

#### **3.01 CLEANING/SURFACE PREPARATION**

- A. It shall be the responsibility of the Contractor to clean the pipeline with a high-pressure water jet and to remove all internal debris out of the pipeline in accordance with Section 02650, Sewerline Cleaning.

#### **3.02 SEWER REPAIRS**

- A. Any protruding pieces of concrete, dropped joints or broken pipe shall be subjected to point repairs so that the pipe is left in a clean smooth condition in all respects ready for lining, unless otherwise jointly determined by the Contractor and the Owner that the defect will not compromise the integrity of the liner.
- B. If conditions such as broken pipe and major blockages are found that will prevent proper cleaning, or where additional damage would result if cleaning is attempted or continued, the Contractor, with the advance concurrence of the Owner, shall perform the necessary point repair(s), and then complete the cleaning.

#### **3.03 JOINT, CRACK, ANNULAR SPACE, AND LINER END CHEMICAL SEALING**

- A. Prior to cured-in-place liner installation, all active leaks of a magnitude to compromise the integrity of the liner shall be stopped using chemical grout, at no additional cost to the Owner.
- B. Materials used on this Project shall have the following properties: react quickly to form a permanent watertight seal; resultant seal shall be flexible and immune to the effects of wet/dry cycles; non-biodegradable and immune to the effects of acids, alkalis, and organics in sewage; component packaging and mixing compatible with field conditions and worker safety; extraneous sealant left inside pipe shall be readily removable; and shall be compatible with the CIPP liner resin system utilized. The chemical sealing materials shall be acrylic resin type and shall be furnished with activators, initiators, inhibitors and any other materials recommended by the manufacturer for a complete grout system. Sealing grout shall be furnished in liquid form in standard manufacturer's containers. Sealing grout shall be AV-100 manufactured by Avanti International or approved equal.
- C. The Contractor shall modify his equipment as necessary to seal the leaks, however both his equipment and sealing method must meet the approval of the Owner prior to use. Extreme caution shall be utilized during leak sealing (pressure) operations in order to avoid damaging the already weakened sewer pipe. If any damage occurs, it shall be repaired at the Contractor's cost and to the satisfaction of the Owner. Excessive pumping of grout which

might plug a service lateral shall be avoided. Any service laterals blocked by the grouting operation shall be cleared immediately by the Contractor.

### **3.04 FLOW CONTROL**

- A. Flow control shall be exercised as required to ensure that no flowing sewage comes into contact with sections of the sewer under repair.

### **3.05 LINER INSTALLATION FOR MAIN LINES AND LATERALS**

- A. In presence of Engineer, perform a pre-lining CCTV inspection immediately prior to CIPP lining to demonstrate that the pipe is clean and free of roots, grease, sand, rocks, sludge, PACP runners or gushers, pockets of water, or structural impediments that would affect long-term viability of the pipe liner. Obtain Owner approval of the acceptability of the existing pipe condition prior to installation of CIPP.
- B. The Contractor shall present to the Owner, for review, a description of his methods for avoiding liner stoppage due to conflict and friction with such points as the manhole entrance and the bend into the pipe entrance. He shall also present plans for dealing with a liner stopped by snagging within the pipe. This information shall be rendered to the Owner in a timely fashion prior to the preconstruction conference.
- C. The Contractor shall immediately notify the Owner of any construction delays taking place during the insertion operation. Such delays shall possibly require sampling and testing by an independent laboratory of portions of the cured liner at the Owner's discretion. The cost of such test shall be born by the Contractor and no extra compensation will be allowed. Any failure of sample tests or a lack of immediate notification of delay shall be automatic cause for rejection of that part of the work at the Owner's discretion.
- D. On site wet out (if applicable) - The Contractor shall designate a location where the tube will be impregnated with resin prior to installation. The Contractor shall allow the Owner and/or Owner to inspect the materials and the "wet-out" procedure.
- E. The Contractor shall submit construction schedules for advance approval by the Owner. At no time will any service lateral remain inoperative for more than an eight (8) hour period. Any service that will be out of service for more than eight (8) hours will be temporarily by-passed into a mainline sanitary sewer, at the Contractor's expense.
- F. The materials and processes must be reasonably available for pre-installation, installation and post-installation inspections. Areas which require inspection include, but are not limited to, the following:
  - 1. Product materials should exhibit sufficient transparency to visually verify the quality of resin impregnation.
  - 2. Temperature sensing devices, such as thermocouples, shall be located between the existing pipe and the CIPP to ensure the quality of the cure of the wall laminate.

### **3.06 LINER INSTALLATION FOR MAIN LINES**

- A. (Heat cured) After the inversion is complete, the Contractor shall supply a suitable heat source and water recirculation equipment to circulate heated water throughout the pipeline. The equipment shall be capable of delivering hot water throughout the pipeline to uniformly raise the water temperature to a level required to effectively cure the resin. The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply. Another such gage shall be placed between the tube and the host pipe at the termination end at or near the bottom to determine the temperatures during cure. Water

temperature in the pipe during the cure period shall be as recommended by the resin manufacturer.

- B. Initial cure shall be deemed complete when the exposed portions of the tube appear to be hard and sound and the temperature sensor indicates that the temperature is of a magnitude to realize an exotherm. The cure period shall be of a duration recommended by the resin manufacturer and may require continuous recirculation of the water to maintain the temperature. The Contractor shall have on hand at all times, for use by his personnel and the Owner, a digital thermometer or other means of accurately and quickly checking the temperature of exposed portions of the liner.
- C. CIPP installation shall be in accordance with ASTM F1216, Section 7, ASTM F1743, Section 6 or ASTM F2019, with modifications as listed herein.
- D. Resin Impregnation: The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation or approved equal process shall be used. To insure thorough resin saturation throughout the length of the felt tube, the point of vacuum shall be no further than 25 feet from the point of initial resin introduction. After vacuum in the tube is established, a vacuum point shall be no further than 75 feet from the leading edge of the resin. The leading edge of the resin slug shall be as near to perpendicular as possible. A roller system shall be used to uniformly distribute the resin throughout the tube. If the Installer uses an alternate method of resin impregnation, the method must produce the same results. Any alternate resin impregnation method must be proven.
- E. Tube Insertion: The wetout tube shall be positioned in the pipeline using either inversion or a pull-in method. If pulled into place, a power winch should be utilized and care should be exercised not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing manhole or approved access point and fully extend to the next designated manhole or termination point.
- F. Temperature gauges shall be placed inside the tube at the invert level of each end to monitor the temperatures during the cure cycle.
- G. Curing shall be in accordance with the manufacturer's recommended cure schedule.
- H. Cooldown: The Contractor shall cool the hardened pipe to a temperature below 100 F before relieving the hydrostatic head. Cooldown may be accomplished by the introduction of cool water into the inversion standpipe to replace water being pumped out of the manhole. Care should be taken in release of static head so that vacuum will not be developed that could damage the newly installed liner.
- I. Service Connections (Sewer Laterals): Contractor shall determine the exact location of all sewer service connections in the field by TV inspection prior to lining of sewer. After the lining process is complete, all service connections temporarily obstructed by the new sewer liner shall be located by using a pivot-headed CCTV camera from inside the lined pipe. A remote cutting tool shall cut a hole matching the service connection diameter, and grout the area where the service connection enters the lined pipe to produce a watertight seal (except that grouting need not be performed where service connection rehabilitation liners are installed). Restored service connection shall exhibit a nearly full-diameter hole, free from burrs or projections and with a smooth and crack-free edge. The hole shall be 95 percent minimum and 100 percent maximum of the original service connection inside diameter. The invert of the service connection shall match the bottom of the reinstalled service opening. During cutting, a CCTV shall be recorded and shall include a pan and tilt view of entire lateral circumference following cutting. Contractor may use "brushing" as a technique to smooth edges of re-instated lateral openings. Existing inactive sewer laterals serving vacant properties shall also be reconnected unless directed otherwise by the Engineer.

- J. Finish: The new pipe shall be cut off in the manhole at a suitable location. The finished product shall be continuous over the length of pipe reconstructed and be free from dry spots, delamination and lifts. Pipe entries and exits shall be smooth, free of irregularities, and watertight. No visible leaks shall be present and the Contractor shall be responsible for grouting to remove leaks or fill voids between the host pipe and the liner. During the warranty period, any defects which will affect the integrity or strength of the product shall be repaired at the Contractor's expense, in a manner mutually agreed upon by the Owner and the Contractor.

### 3.07 FIELD QUALITY CONTROL

- A. Field acceptance of the liner shall be based on the Engineer's evaluation of the installation including TV video and a review of certified test data for the installed pipe samples.
1. Groundwater infiltration of the liner shall be zero.
  2. There shall be no evidence of splits, cracks, breaks, lifts, kinks, delaminations or crazing in the liner.
  3. If any defective liner is discovered after it has been installed, it shall be removed and replaced with either a sound liner or a new pipe at no additional cost to the Owner.

### 3.08 ACCEPTANCE

- A. The finished liner shall be continuous over the entire length of the installation. The liner shall be free from visual defects, damage, deflection, holes, delamination, uncured resin, and the like. No pinholes, cracks, thin spots, dry spots, or other defects in the liner will be permitted. There shall be no visible infiltration through the liner or from behind the liner at manholes and service connections. Cut-ins and attachments at service connections shall be neat and smooth.
- B. Defects, which, in the opinion of the Engineer, will affect the liner's structural integrity, strength, hydraulic performance, future maintenance access, and overall line performance, shall be repaired or the sewer replaced at the Contractor's expense. Any lined section of segment (from manhole to manhole) exhibiting these defects will be rejected for payment until such time repairs have been made to the defective liner to the satisfaction of the Engineer. The following methods of repair shall be implemented by the Contractor to resolve defects unless otherwise approved by the Engineer:

Defects	Repair Method
Annular space or infiltration at lateral opening	Re-seal with structural grout or point repair
Damaged lateral caused by overly ground tap	Repair with structural grout or point repair
Annular space or infiltration at manhole wall and liner termination	Re-grout liner termination
Cracked, missing pipe or voids caused by the cleaning operation	Repair with structural grout, thicken liner, or point repair
Dropped pipe or shape loss caused by the cleaning operation	Point repair
Wrinkles or ridges in liner greater than 5% of the pipe diameter	Grinding allowed if not part of structural component of liner. If grinding would require removal of structural component, then Contractor must make point repair
Re-installed bulkheaded tap or inactive service connection	Re-seal with structural grout or point repair



<b>Defects</b>	<b>Repair Method</b>
Lined over debris	Point repair
Soft spots or lifts in the liner	Point repair
Final liner thickness less than required thickness bid	Replace inadequate liner

### **3.09 WET-OUT AND CURE REPORT**

A. The Contractor shall submit "wet out" and "cure" reports documenting the specific details of the liner's vacuum impregnation and saturation with resin and the CIPP installation of the liner. A report shall be generated for each liner installation. A copy of all "wet out" and "cure" records shall be made available to the Owner upon request, and shall be turned over to the Owner on a weekly basis and prior to request for payment. If the "wet out" and "cure" reports are not presented prior to a payment request for a repair work order, payment for the work will not be made and the request will be rejected. At a minimum, this report shall include, in addition to Contractor and Contract identification:

1. Line identification and location
2. Wet-out date
3. Sample identification(s) and technician
4. Installation (in sewer) date
5. Host sewer pipe inside diameter
6. Liner thickness
7. Liner length
8. Liner and resin batch numbers
9. Resin type
10. Wet out length
11. Roller spacing
12. Vacuum setting
13. Quantity of resin and catalyst utilized
14. Wet out technicians
15. Time wet out started and completed
16. Applicable remarks
17. (Heat cure) Boiler and liner heating fluid pressure and temperature versus time log during cure period
18. (UV cure) Pressure and temperature versus time log and light train speed during cure period.
19. Cool down report

### **3.10 CLEANUP**

- A. After the liner installation has been completed and accepted, the Contractor shall cleanup the entire project area and return the ground cover to the original or better condition. All excess material and debris not incorporated into the permanent installation shall be disposed of by the Contractor.

### **3.11 TELEVISION SURVEY**

- A. Television survey, including Preconstruction Survey, Post Construction Survey, and Warranty Survey, shall be in accordance with Section 02651, Television Inspection of Pipelines. Television survey shall be done for all cured-in-place lining, and shall be completed within 2 weeks of liner installation.

### **3.12 PUBLIC NOTIFICATION**

- A. The Contractor shall make every effort to maintain service usage throughout the duration of the project. In the event that a service will be out of service, the maximum amount of time of no service shall be 8 hours for any property served by the sewer. A public notification program shall be implemented, and shall as a minimum, require the Contractor to be responsible for contacting each home or business connected to the sanitary sewer and informing them of the work to be conducted, and when the sewer will be off-line. The Contractor shall also provide the following:
  - 1. Whether or not an interruption in service is expected, written notice to be delivered to each home or business the day prior to the beginning of work being conducted on the section, and a local telephone number of the Contractor the home or business can call to discuss the project or any problems which could arise.
  - 2. Personal contact with any home or business which cannot be reconnected within the time stated in the written notice.

END OF SECTION

## **SECTION 02775 - SIDEWALKS**

### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. Furnish all labor, materials, equipment and services required for constructing concrete sidewalks where shown on the Drawings and as specified herein.

### **PART 2 - PRODUCTS**

#### **2.01 GENERAL**

- A. Sidewalks shall be in accordance with LFUCG Standard Drawings.

#### **2.02 CRUSHED STONE**

- A. Stone for sidewalk base shall be dense grade aggregate (DGA).

#### **2.03 CONCRETE**

- A. Concrete for sidewalks shall be Class A concrete per Section 03300.

#### **2.04 PREMOLDED EXPANSION JOINT FILLER**

- A. Premolded expansion joint filler shall be closed cell polyethylene foam type, Sonneborn Sonoflex F, Williams Products Expand-O-Foam, or equal. Seal joint with one-part self-leveling polyurethane sealant, Sonneborn Sonolastic SL 1, or equal, maximum 3/8 inches deep. Prepare and prime joints per manufacturer's instructions.

#### **2.05 CURING COMPOUND**

- A. A white pigmented curing compound is required on all sidewalks per LFUCG Standard Drawings.

### **PART 3 - EXECUTION**

#### **3.01 BASE**

- A. Following finished grading, a base course of DGA shall be placed to a compacted thickness of four (4) inches. Immediately prior to placing concrete, DGA base shall be thoroughly wetted.

#### **3.02 SURFACE**

- A. Concrete shall be in thickness shown on LFUCG Standard Drawings, struck off and worked with a float until mortar appears on the top. After surface has been thoroughly floated, it shall be brushed to leave markings of a uniform type, providing non-slip finish. No dusting or plastering will be allowed. Water shall not be added to the surface of the concrete at any time during the finishing procedure.

### 3.03 FINISHING

- A. All joints and edges shall be finished with an edging tool. Dummy joints shall be formed about five (5) feet apart to form rectangular blocks. Expansion joints of 1/2 inch premolded expansion joint material shall be provided at the intersection of all vertical surfaces with the sidewalks slabs and at approximately 32 foot intervals along the walks.

END OF SECTION

## **SECTION 03300 - CAST-IN-PLACE CONCRETE**

### **PART 1 - GENERAL**

#### **1.01 THE REQUIREMENT**

- A. Provide all labor, equipment, materials and services necessary for the manufacture, transportation and placement of all plain and reinforced concrete work, as shown on the Drawings or as ordered by the Engineer.
- B. Concrete shall be in accordance with the latest edition of Standard Specifications for Road and Bridge Construction issued by the Kentucky Transportation Cabinet.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 03600 - Grout

#### **1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS**

- A. Without limiting the generality of the Specifications, all work herein shall conform to or exceed the applicable requirements of the following documents. All referenced specifications, codes, and standards refer to the most current issue available at the time of Bid.
  - 1. Kentucky Dept. of Transportation Standard Specifications for Road and Bridge Construction, Latest Edition.
  - 2. Kentucky Building Code
  - 3. ACI 214 Recommended Practice for Evaluation of Strength Test Results of Concrete
  - 4. ACI 304 Guide for Measuring, Mixing, Transporting, and Placing Concrete
  - 5. ACI 305 Hot Weather Concreting
  - 6. ACI 306 Cold Weather Concreting
  - 7. ACI 318 Building Code Requirements for Structural Concrete
  - 8. ACI 350 Code Requirements for Environmental Engineering Concrete Structures
  - 9. ASTM C 31 Standard Methods of Making and Curing Concrete Test Specimens in the Field
  - 10. ASTM C 39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
  - 11. ASTM C 42 Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
  - 12. ASTM C 94 Standard Specification for Ready-Mixed Concrete
  - 13. ASTM C 143 Standard Test Method for Slump of Portland Cement Concrete
  - 14. ASTM C 172 Standard Method of Sampling Fresh Concrete
  - 15. ASTM C 260 Standard Specification for Air-Entraining Admixtures for Concrete

16. ASTM C 457 Standard Recommended Practice for Microscopical Determination of Air-Void Content and Parameters of the Air-Void System in Hardened Concrete
17. ASTM C 1567 Standard Test Method for Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)

#### **1.04 SUBMITTALS**

- A. Submit the following in accordance with Section 01300, Submittals.
  1. Sources of all materials and certifications of compliance with specifications for all materials.
  2. Certified current (less than 1 year old) chemical analysis of the Portland Cement or Blended Cement to be used.
  3. Certified current (less than 1 year old) chemical analysis of fly ash or ground granulated blast furnace slag to be used.
  4. Aggregate test results showing compliance with required standards, i.e., sieve analysis, aggregate soundness tests, petrographic analysis, mortar bar expansion testing per ASTM C 1567, etc.
  5. Manufacturer's data on all admixtures stating compliance with required standards.
  6. Concrete mix design for each class of concrete specified herein.
  7. Field experience records and/or trial mix data for the proposed concrete mixes for each class of concrete specified herein.

### **PART 2 - PRODUCTS**

#### **2.01 CONCRETE**

- A. Sidewalks, entrance pavements, concrete pavement subbase for asphaltic surface course, concrete pavement, curb gutter, and thrust blocking shall be Class A.
- B. Concrete shall be as specified in the following table excerpted from Standard Specifications for Road and Bridge Construction, Edition of 2012, Kentucky Transportation Cabinet:

## CONCRETE PROPORTIONING AND REQUIREMENTS KYDOT 601.03.03

### INGREDIENT PROPORTIONS AND REQUIREMENTS FOR VARIOUS CLASSES OF CONCRETE

Class of Concrete	Approximate Percent Fine to Total Aggregate		Maximum Free Water by W/C Ratio (lb/lb)	28-Day Compressive Strength <sup>(1)</sup> (psi)	Slump <sup>(4)</sup> (inches)	Minimum Cement Factor (lb/yd <sup>3</sup> )	Air Content (%)
	Gravel	Stone					
A <sup>(5)</sup>	36	40	0.49	3,500	2-4 <sup>(7)</sup>	564	6 ± 2
A Mod	36	40	0.47	3,500	4-7	658	6 ± 2
AA <sup>(2)</sup>	36	40	0.42	4,000	2-4 <sup>(12)</sup>	620	6 ± 2 <sup>(11)</sup>
AAA <sup>(8)</sup>	36	40	0.40	5,500	3-7	686	6 ± 2 <sup>(11)</sup>
B	40	44	0.66	2,500	3-5	451	6 ± 2
D <sup>(3)</sup>	35	39	0.44	4,000	3-5 <sup>(6)</sup>	639	6 ± 2
D Mod <sup>(3)</sup>	35	39	0.42	5,000	3-5 <sup>(6)</sup>	733	6 ± 2
M1 <sup>(9)</sup> w/Type I Cement	36	40	0.33	4,000 <sup>(9)</sup>	7 max.	800	6 ± 2
M2 <sup>(9)</sup> w/Type III Cement	36	40	0.38	4,000 <sup>(9)</sup>	7 max.	705	6 ± 2
P <sup>(5)</sup>	35	38	0.49	3,500	--- <sup>(13)</sup>	564 <sup>(10)</sup>	6 ± 2 <sup>(11)</sup>

- (1) The Department may direct non-payment, additional construction, or removal and replacement for concrete which test cylinders indicate low compressive strength and follow-up investigations indicate inadequate strength. The Department may require some classes to attain the required compressive strength in less than 28 hours.
- (2) When the ambient air temperature while placing slab concrete is 71°F or more, add to the concrete a water-reducing and retarding admixture. The Engineer may require or allow, water-reducing and retarding admixture in slab concrete for ambient air temperatures of less than 71°F. Only use one type of admixture for concrete placed during any individual contiguous pour.
- (3) The Department will require a compressive strength of 5,000 psi or greater when specified in the Contract, at or before 28 days of prestressed members.
- (4) The Engineer will allow slumps less than the minimum provided concrete is workable.
- (5) The Department will allow the use of JPC pavement mixture for non-structural construction.
- (6) At the option of the prestressed product fabricator, the Department will allow the slump of Class D or Class D Modified concrete to be increased to a maximum of 8 inches for all items, except products with voids. For products with voids, the slump may be increased to 7 inches. Provide a high range water reducer (Type F or G) in an amount not to exceed the following water/cement ratios:  
  - Summer mix designs – 0.39
  - Spring and Fall mix designs – 0.37
  - Winter mix designs – 0.34
- (7) The precast fabricator may increase the slump of Class A concrete to a maximum of 7 inches provided the fabricator uses a high range water reducer (Type F or G) and maximum water/cement ratio of 0.46.
- (8) Use a high range water reducer (Type F or G).
- (9) The Department will require 3,000 psi compressive strength before opening to traffic and 4,000 psi at 28 days.
- (10) 611 lb/yd<sup>3</sup> when using coarse aggregate sizes No. 8, 78, or 9-M.
- (11) 7 ± 2% when using coarse aggregate sizes No. 8, 78 or 9-M.
- (12) The Department may allow the slump of AA concrete to be increased up to a 6 inch maximum, provided the W/C ratio does not exceed 0.40 and a high range water reducer (Type F or G) is used. Trial Batches will be required if producer has not previously supplied.
- (13) The Department does not have slump requirements for Class P concrete mixes except for the edge slump requirements of Section 501.03.19.

## 2.02 FLOWABLE FILL

- A. Flowable fill shall conform to Section 601 of the Standard Specifications for Road and Bridge Construction, Edition of 2012.
- B. Flowable fill shall consist of a mixture of cement, sand, fly ash, and water. The loss on ignition for Class F fly ash shall not exceed 12 percent. Ensure that the concrete producer certifies mix proportions for flowable fill as follows:

Flowable Fill for Pipe Backfill. Proportion as follows, per cubic yard batch:

Cement	30 pounds
Fly Ash, Class F	300 pounds
Natural Sand (S.S.D.)	3,000 pounds
Water (Maximum)	550 pounds

- C. Flowable fill shall obtain an average compressive strength of 50 to 100 psi at 28 days for application as pipe backfill. For applications requiring early opening to traffic or placement of pavement as soon as possible, the mixture shall conform to the following general guidelines:
  - 1. Mixture bleeds freely within 10 minutes
  - 2. Mixture supports a 150-pound person within three hours.

### **PART 3 – EXECUTION**

#### **3.01 PRODUCTION OF CONCRETE**

- A. All concrete shall be machine mixed. Hand mixing of concrete will not be permitted. The Contractor shall supply concrete from a ready mix plant. In selecting the source for concrete production the Contractor shall carefully consider its capability for providing quality concrete at a rate commensurate with the requirements of the placements so that well bonded, homogenous concrete, free of cold joints, is assured. Ready mixed concrete shall be in accordance with ASTM C94.
- B. Each and every concrete delivery shall be accompanied by a delivery ticket containing at least the following information:
  - 1. Date and truck number
  - 2. Ticket number
  - 3. Mix designation of concrete
  - 4. Cubic yards of concrete
  - 5. Cement brand, type and weight in pounds
  - 6. Weight in pounds of fine aggregate (sand)
  - 7. Weight in pounds of coarse aggregate (stone)
  - 8. Air entraining agent, brand, and weight in pounds and ounces
  - 9. Other admixtures, brand, and weight in pounds and ounces
  - 10. Water, in gallons, stored in attached tank
  - 11. Water, in gallons, maximum that can be added without exceeding design water/cement ratio
  - 12. Water, in gallons, actually used (by truck driver)
  - 13. Time of loading
  - 14. Time of delivery to job (by truck driver)
- C. Any truck delivering concrete to the job site, which is not accompanied by a delivery ticket showing the above information will be rejected and such truck shall immediately depart from the job site.



### **3.02 CONCRETE PLACEMENT**

- A. No concrete shall be placed prior to approval of the concrete mix design. Concrete placement shall conform to the recommendations of ACI 304.

### **3.03 CONCRETE WORK IN COLD WEATHER**

- A. Cold weather concreting procedures shall conform to the requirements of ACI 306.
- B. The Engineer may prohibit the placing of concrete at any time when air temperature is 40°F. or lower. If concrete work is permitted, the concrete shall have a minimum temperature, as placed, of 55°F. for placements less than 12" thick, 50°F. for placements 12" to 36" thick, and 45°F. for placements greater than 36" thick. The temperature of the concrete as placed shall not exceed the aforementioned minimum values by more than 20°F, unless otherwise approved by the Engineer.
- C. The addition of admixtures to the concrete to prevent freezing is not permitted. All reinforcement, forms, and concrete accessories with which the concrete is to come in contact shall be defrosted by an approved method. No concrete shall be placed on frozen ground.

### **3.04 CONCRETE WORK IN HOT WEATHER**

- A. Hot weather concreting procedures shall conform to the requirements of ACI 305.
- B. When air temperatures exceed 85°F, or when extremely dry conditions exist even at lower temperatures, particularly if accompanied by high winds, the Contractor and his concrete supplier shall exercise special and precautionary measures in preparing, delivering, placing, finishing, curing and protecting the concrete mix. The Contractor shall consult with the Engineer regarding such measures prior to each day's placing operation and the Engineer reserves the right to modify the proposed measures consistent with the requirements of this Section of the Specifications. All necessary materials and equipment shall be on hand in position prior to each placing operation.
- C. Preparatory work at the job site shall include thorough wetting of all forms, reinforcing steel and, in the case of slab pours on ground or subgrade, spraying the ground surface on the preceding evening and again just prior to placing. No standing puddles of water shall be permitted in those areas which are to receive the concrete.
- D. The temperature of the concrete mix when placed shall not exceed 90°F.
- E. Delivery schedules shall be carefully planned in advance so that concrete is placed as soon as practical after it is properly mixed. For hot weather concrete work (air temperature greater than 85°F), discharge of the concrete to its point of deposit shall be completed within 60 minutes from the time the concrete is batched.
- F. The Contractor shall arrange for an ample work force to be on hand to accomplish transporting, vibrating, finishing, and covering of the fresh concrete as rapidly as possible.

### **3.05 QUALITY CONTROL**

- A. Field Testing of Concrete
  - 1. The Contractor shall coordinate with the Owner's testing firm personnel as required for concrete testing.

2. Concrete for testing shall be supplied by the Contractor at no additional cost to the Owner, and the Contractor shall provide assistance to the testing laboratory in obtaining samples. The Contractor shall dispose of and clean up all excess material.
3. For every placement of concrete that is 10 cubic yards or less, the following tests shall be performed (as described in paragraphs B through E below):
  - a. Consistency
  - b. Unit Weight
  - c. Air content
  - d. Compressive Strength
  - e. Temperature
4. For every placement of concrete that is larger than 10 cubic yards, the following tests shall be performed for every 50 cubic yards (as described in paragraphs B through E below):
  - a. Consistency – test the first truck and one additional truck randomly selected by the Owner’s Resident Project Representative (RPR).
  - b. Unit Weight – test one truck randomly selected by the RPR
  - c. Air content - test the first truck and one additional truck randomly selected by the RPR.
  - d. Compressive Strength - test one truck randomly selected by the RPR
  - e. Temperature - test one truck randomly selected by the RPR

The sampling of concrete is approved at the truck discharge. If a concrete pump is employed, the Contractor is advised that 1.5-3.0% air is lost in pumping and such should be accounted for at the point of testing. Therefore, the air content should be adjusted to ensure that the air content meets the specification at the point of placement.

The first truck is defined as the first truck as accepted by the RPR. The RPR shall have the authority of the Owner to accept or reject all concrete.

1. Sampling is at the discretion of the RPR.
2. Additional testing may be required as deemed necessary by the Owner.

#### B. Consistency

1. The consistency of the concrete will be checked by the Owner’s testing firm by standard slump cone tests. The Contractor shall make any necessary adjustments in the mix as the Owner or Engineer may direct and shall upon written order suspend all placing operations in the event the consistency does not meet the intent of the specifications. No payment shall be made for any delays, material or labor costs due to such eventualities.
2. Slump tests shall be made in accordance with ASTM C 143.
3. Concrete with a specified nominal slump shall be placed having a slump within 1” (higher or lower) of the specified slump. Concrete with a specified maximum slump shall be placed having a slump less than the specified slump.

#### C. Unit Weight

1. Samples of freshly mixed concrete shall be tested for unit weight by the Owner’s testing firm in accordance with ASTM C 138.

#### D. Air Content

1. Samples of freshly mixed concrete will be tested for entrained air content by the Owner's testing firm in accordance with ASTM C 231.
2. In the event test results are outside the limits specified, additional testing shall occur. Upon discovery of incorrect air entrainment, the concrete shall be removed from the jobsite.

#### E. Compressive Strength

1. Samples of freshly mixed concrete will be taken by the Owner's testing firm and tested for compressive strength in accordance with ASTM C 172, C 31 and C 39, except as modified herein.
2. Each sampling shall consist of at least five (5) 6x12 cylinders or (8) 4x8 cylinders. Each cylinder shall be identified by a tag, which shall be hooked or wired to the side of the container. The Owner's testing firm will fill out the required information on the tag, and the Contractor shall satisfy himself that such information shown is correct.
3. The Contractor shall be required to furnish labor to the Owner for assisting in preparing test cylinders for testing. The Contractor shall provide approved curing boxes for storage of cylinders on site. The insulated curing box shall be of sufficient size and strength to contain all the specimens made in any four consecutive working days and to protect the specimens from falling over, being jarred or otherwise disturbed during the period of initial curing. The box shall be erected, furnished and maintained by the Contractor. Such box shall be equipped to provide the moisture and to regulate the temperature necessary to maintain the proper curing conditions required by ASTM C 31. Such box shall be located in an area free from vibration such as pile driving and traffic of all kinds and such that all specimen are shielded from direct sunlight and/or radiant heating sources. No concrete requiring inspection shall be delivered to the site until such storage curing box has been provided. Specimens shall remain undisturbed in the curing box until ready for delivery to the testing laboratory but not less than sixteen hours.
4. The Contractor shall be responsible for maintaining the temperatures of the curing box during the initial curing of test specimens with the temperature preserved between 60°F and 80°F as measured by a maximum-minimum thermometer. The Contractor shall maintain a written record of curing box temperatures for each day curing box contains test specimens. Temperature shall be recorded a minimum of three times a day with one recording at the start of the work day and one recording at the end of the work day.
5. When transported, the cylinders shall not be thrown, dropped, allowed to roll, or be damaged in any way.

#### F. Evaluation and Acceptance of Concrete

1. Evaluation and acceptance of the compressive strength of concrete shall be according to the requirements of ACI 214, ACI 318, and ACI 350.
2. The strength level of concrete will be considered satisfactory if all of the following conditions are satisfied.
  - a. Every arithmetic average of any three consecutive strength tests equals or exceeds the minimum specified 28-day compressive strength for the mix (see Article 2.07).
  - b. No individual compressive strength test results falls below the minimum specified strength by more than 500 psi.
  - c. No more than 10% of the compressive tests have strengths greater than the maximum strength specified.

3. In the event any of the conditions listed above are not met, the mix proportions shall be corrected for the next concrete placing operation.
4. In the event that condition 2B is not met, additional tests in accordance with Article 3.10, paragraph H shall be performed.
5. When a ratio between 7-day and 28-day strengths has been established by these tests, the 7-day strengths shall subsequently be taken as a preliminary indication of the 28-day strengths. Should the 7-day test strength from any sampling be more than 10% below the established minimum strength, the Contractor shall:
  - a. Immediately provide additional periods of curing in the affected area from which the deficient test cylinders were taken.
  - b. Maintain or add temporary structural support as required.
  - c. Correct the mix for the next concrete placement operation, if required to remedy the situation.
6. All concrete which fails to meet the ACI requirements and these specifications is subject to removal and replacement at no additional cost to the Owner.

#### H. Additional Tests

1. In the event the 28-day test cylinders fail to meet the minimum strength requirements as outlined in Article 3.10, paragraph F, the Contractor shall have concrete core specimens obtained and tested from the affected area immediately.
  - a. Three cores shall be taken by the Owner's testing firm for each sample in which the strength requirements were not met.
  - b. The concrete in question will be considered acceptable if the average compressive strength of a minimum of three test core specimens taken from a given area equal or exceed 85% of the specified 28-day strength and if the lowest core strength is greater than 75% of the specified 28-day strength.
2. Concrete placed with compressive strengths greater than the maximum strength specified shall be removed and replaced or repaired as deemed necessary by the Engineer.

### 3.06 CARE AND REPAIR OF CONCRETE

- A. The Contractor shall protect all concrete against injury or damage from excessive heat, lack of moisture, overstress, or any other cause until final acceptance by the Owner. Particular care shall be taken to prevent the drying of concrete and to avoid roughening or otherwise damaging the surface. Care shall be exercised to avoid jarring forms or placing any strain on the ends of projecting reinforcing bars. Any concrete found to be damaged, or which may have been originally defective, or which becomes defective at any time prior to the final acceptance of the completed work, or which departs from the established line or grade, or which, for any other reason, does not conform to the requirements of the Contract Documents, shall be satisfactorily repaired or removed and replaced with acceptable concrete at no additional cost to the Owner.
- B. Areas of honeycomb shall be chipped back to sound concrete and repaired as directed by the Engineer.
- C. Concrete formwork blowouts or unacceptable deviations in tolerances for formed surfaces due to improperly constructed or misaligned formwork shall be repaired as directed by the

Engineer. Bulging or protruding areas, which result from slipping or deflecting forms shall be ground flush or chipped out and redressed as directed by the Engineer.

- D. Areas of concrete in which cracking, spalling, or other signs of deterioration develop prior to final acceptance shall be removed and replaced, or repaired as directed by the Engineer. This stipulation includes concrete that has experienced cracking due to drying or thermal shrinkage of the concrete. Structural cracks shall be repaired using an epoxy injection system approved by the Engineer. Non-structural cracks shall be repaired using a hydrophilic resin pressure injected grout system approved by the Engineer, unless other means of repair are deemed necessary and approved by the Engineer. Extensive repair or replacement will be considered for concrete placed having compressive strengths greater than maximum strength specified. All repair work shall be performed at no additional cost to the Owner.

END OF SECTION

## **SECTION 03600 - GROUT**

### **PART 1 - GENERAL**

#### **1.01 THE REQUIREMENT**

- A. Furnish all materials, labor, and equipment required to provide all grout used in concrete work in accordance with the Contract Documents.

#### **1.02 REFERENCE SPECIFICATIONS, CODES AND STANDARDS**

- A. Without limiting the generality of the other requirements of the specifications, all work herein shall conform to the applicable requirements of the following documents. All referenced specifications, codes, and standards refer to the most current issue available at the time of Bid.

1. CRD-C 621 Corps of Engineers Specification for Non-shrink Grout
2. ASTM C 109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2 inch or 50 mm cube Specimens)
3. ASTM C 531 Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts and Monolithic Surfacing
4. ASTM C 579 Test Method for Compressive Strength of Chemical-Resistant Mortars and Monolithic Surfacing
5. ASTM C 827 Standard Test Method for Early Volume Change of Cementitious Mixtures
6. ASTM C 144 Standard Specification for Aggregate for Masonry Mortar
7. ASTM C 1107 Standard Specification for Packaged Dry, Hydraulic Cement Grout (Nonshrink)

#### **1.03 SUBMITTALS**

- A. Submit the following in accordance with Section 01300 - Submittals.
  1. Certified test results verifying the compressive strength and shrinkage and expansion requirements specified herein.
  2. Manufacturer's literature containing instructions and recommendations on the mixing, handling, placement and appropriate uses for each type of grout used in the work.

#### **1.04 QUALITY ASSURANCE**

- A. Field Tests (required for pump station and storage tank projects)
  1. Compression test specimens will be taken during construction from the first placement of each type of grout and at intervals thereafter as selected by the Engineer to insure continued compliance with these Specifications. The specimens will be made by the Contractor and observed by Engineer.

- a. Compression tests and fabrication of specimens for cement grout and non-shrink grout will be performed as specified in ASTM C 109 at intervals during construction as selected by the Engineer. A set of three specimens will be made for testing at seven days, 28 days and any additional time period as appropriate.
  - b. Compression tests and fabrication of specimens for epoxy grout will be performed as specified in ASTM C 579, Method B, at intervals during construction as selected by the Engineer. A set of three specimens will be made for testing at seven days and any other time period as appropriate.
2. The cost of all laboratory tests on grout will be borne by the Owner, but the Contractor shall assist the Engineer in obtaining specimens for testing. The Contractor shall be charged for the cost of any additional tests and investigation on work performed which does not meet the specifications. The Contractor shall supply all materials necessary for fabricating the test specimens, at no additional cost to the Owner.
  3. All grout, already placed, which fails to meet the requirements of these Specifications, is subject to removal and replacement at no additional cost to the Owner.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

#### **A. Non-Shrink Cement Grout (Applicable for projects with Gravity Sewers and Force Mains)**

1. Non-shrink grout shall conform to CRD-C 621 and ASTM C 1107, Grade B or C when tested at a max. fluid consistency of 30 seconds per CDC 611/ASTM C939 at temperature extremes of 45°F and 90°F and an extended working time of 15 minutes. Grout shall be non-metallic, non-stain, and non-shrink and color similar to concrete. Grout shall have a min. 28-day strength of 7,000 psi. Non-shrink grout shall be, "Euco N-S" by the Euclid Chemical Company, "Sikagrout 212" by Sika Corporation, Conspec 100 Non-Shrink Non-Metallic Grout by Conspec, Masterflow 555 Grout by BASF Construction Chemicals.

#### **B. Epoxy Grout (Applicable for projects with Structures)**

1. Epoxy grout shall be "Sikadur 32 Hi-Mod" by Sika Corporation, "Duralcrete LV" by Tamms Industries, or "Euco #452 Series" by Euclid Chemical, Concessive 1090 by BASF Construction Chemicals.
2. Epoxy grout shall be modified as required for each particular application with aggregate per manufacturer's instructions.

#### **C. Epoxy Base Plate Grout (Applicable for projects with Structures)**

1. Epoxy base plate grout shall be Sikadur 42, Grout-Pak by Sika Corporation, or Masterflow MP by BASF Construction Chemicals.

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

- A. Concrete surfaces shall be cleaned of all dirt, grease and oil-like films. Additionally, concrete surfaces shall be free of debris, including chipping or roughening the surface if a laitance or poor concrete is evident. The finish of the grout surface shall match that of the adjacent concrete.

- B. All mixing, surface preparation, handling, placing, consolidation, and other means of execution for prepackaged grouts shall be done according to the instructions and recommendations of the manufacturer.
- C. The Contractor, through the manufacturer of a non-shrink grout and epoxy grout, shall provide on-site technical assistance upon request, at no additional cost to the Owner.

### **3.02 CONSISTENCY**

- A. The consistency of grouts shall such that it is able to completely fill the space to be grouted. Dry pack consistency is such that the grout is plastic and moldable but will not flow.

### **3.03 MEASUREMENT OF INGREDIENTS**

- A. Measurements for cement grout shall be made accurately by volume using containers. Shovel measurement shall not be allowed.
- B. Prepackaged grouts shall have ingredients measured by means recommended by the manufacturer.

### **3.04 GROUT INSTALLATION**

- A. Grout shall be placed quickly and continuously, shall completely fill the space to be grouted and be thoroughly compacted and free of air pockets. The grout may be poured in place, pressure grouted by gravity, or pumped. The use of pneumatic pressure or dry-packed grouting requires approval of the Engineer. For grouting beneath base plates, grout shall be poured form one side only and thence flow across to the open side to avoid air-entrapment.

END OF SECTION