
PROJECT MANUAL

Rogers Road Area Stormwater Improvements Project

Lexington Fayette Urban County Government

**Bid # 160-2015
Project #57.5**

October 29, 2015

CIVIL ENGINEER



Engineers • Consultants • Scientists • International

**340 South Broadway #200
Lexington, KY 40508
859.233.2103**



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PART I

ADVERTISEMENT FOR BIDS

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ADVERTISEMENT FOR BIDS

1. INVITATION

Sealed proposals for the following work will be received by the Lexington-Fayette Urban County Government until **2:00 p.m.**, local time, **Monday November 16, 2015** for furnishing all labor and/or materials and performing all work as set forth by this advertisement, conditions (general and special), specifications, and/or the drawings prepared by and for Lexington-Fayette Urban County Government, Division of Water Quality. Immediately following the scheduled closing time for reception of bids, all proposals which have been submitted in accordance with the above will be publicly opened and read aloud.

2. DESCRIPTION OF WORK

The project includes providing all construction supervision, labor, materials, tools, test equipment necessary for **Rogers Road Area Stormwater Improvements Project, in Lexington-Fayette County, Kentucky**.

3. OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Plans, Specifications, and Contract Documents may be obtained from the official bid document distributor, LYNN IMAGING, 328 Old Vine Street, Lexington, KY 40507, (859) 255-1021 or (www.lynnimaging.com) and click on plan room for a non-refundable price of reproduction for each full set of plans and documents.

Specifications, Plans, and Bid Documents may be examined at the following places:

LFUCG

Division of Central Purchasing
200 East Main Street, Third Floor, Rm 338
Lexington, Kentucky 40507
(859) 258-3320

Builders Exchange
1035 Strader Drive, Ste 100
Lexington, Kentucky, 40505

LFUCG

Division of Water Quality
125 Lisle Industrial Avenue
Lexington, Kentucky 40511
(859) 425-2400

McGraw-Hill Co./F. W. Dodge
2321 Fortune Drive, Ste 112-A
Lexington, Kentucky 40509

4. METHOD OF RECEIVING BIDS

Bids will be received from Prime Contracting firms on a **Lump Sum/Line Item Unit Price Basis**, for total Project Area. Bids shall be submitted in the manner and subject to the conditions as set forth and described in the Instruction to Bidders and Special Conditions.

Sealed bids shall be clearly marked on the outside of the container as follows: Company Name and Address, Bid Invitation Number, and the Project Name. Bids are to remain sealed until official Bid closure time.

Mailed bids/proposals should be sent to the Director, Division of Central Purchasing, 200 East Main Street, Lexington, KY 40507.

5. METHOD OF AWARD

The Contract, if awarded, will be to the lowest, qualified responsible bidder for the total project 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. In analyzing Bids, the OWNER may take into consideration alternate and unit prices, if requested by the Bid forms.

6. BID WITHDRAWAL

No bidder may withdraw his bid for a period of sixty (60) 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. Bids may be withdrawn in person prior to the closing date of receipt of bids.

7. BID SECURITY

If the bid is \$50,000 or greater, bid shall be accompanied by a certified / cashier's check or bid bond payable to the Lexington-Fayette Urban County Government in an amount not less than Five Percent (5%) of the base bid. Bid bond shall be 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. Bid Bonds are not required for bids under \$50,000. A certified check or cashier's check is also acceptable forms of bid security.

8. SUBMISSION OF BIDS

CONTRACTORS shall submit their bids to the Lexington-Fayette Urban County Government, Division of Purchasing, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. Bids shall be submitted in a sealed envelope not later than **2:00 p.m.**, local time, **Monday, November 16, 2015**. Sealed proposals shall be clearly marked on the outside of the container as follows: Company Name and Address, Bid Invitation Number, and Project Name to be opened at **2:00 p.m.** local time **Monday, November 16, 2015**. Bids received after the scheduled closing time for receipt of bids will not be considered and will be returned unopened.

9. RIGHT TO REJECT

The Purchasing Agent for the Lexington-Fayette Urban County Government reserves the right to reject any and all bids and to waive all informalities and/or technicalities where the best interest of the Lexington-Fayette Urban County Government may be served.

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

The successful bidder must submit with their bid the following items to the Lexington-Fayette Urban County Government:

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

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

All submissions should be directed to:

Lexington-Fayette Urban County Government
Division of Purchasing
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507

11. NOTICE CONCERNING MWDBE GOAL

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 Lexington-Fayette Urban County Government 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. The goal for the utilization

of Disadvantaged Business Enterprises as subcontractors is a recommended goal. Contractor(s) who fail to meet such goal 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 Enterprises Subcontractors contact:

Marilyn Clark, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507
mclark@lexingtonky.gov

12. PRE-BID MEETING

A non-mandatory pre-bid meeting will be held at **10:00 AM** local time on **Thursday, November 5, 2015** at **125 Lisle Industrial Ave., Suite 180**.

13. CONSENT DECREE REQUIREMENTS

The work to be provided through this bid will assist the **LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT** (the “**OWNER**”) in successfully implementing the **PROJECT** 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 **PROJECT**. **The primary goal of the PROJECT 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 **PROJECT**. Time is of the essence in the performance of this **PROJECT**. **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 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.

14. STATE REVOLVING LOAN REQUIREMENTS

This project may be partially or entirely funded by the Kentucky Infrastructure Revolving Loan Fund.

Bidders must comply with Title VI of the Civil Rights Act of 1964, the Anti-Kickback Act, and the Contract Work Hours Standard Act and 40 CFR 31.36 L (3,4 & 6).

Bidders must comply with the President's Executive Order No. 11246 as amended, which prohibits discrimination in employment regarding race, creed, color, sex, or national origin.

Successful bidder shall comply with 41 CFR 60-4, in regard to affirmative action, to insure equal opportunity to females and minorities and will apply the time tables and goal set forth in 40 CFR 60-4.

The procurement and performance of this Contract are subject to the requirements of the Davis-Bacon Act.

Successful bidder shall make positive efforts to use small, minority, women-owned, and disadvantaged businesses.

Attention of bidders is particularly called to the conditions of employment to be observed and minimum wage rates to be paid under the Contract, Section 3, Segregated Facility, Section 109 and E.O. 11246 and Title VI. Minority bidders are encouraged to bid.

Successful bidder is required to employ the six "Good Faith Efforts" as listed in EPA's Disadvantaged Business Enterprise Program when soliciting subcontractors and suppliers. Documentation of these efforts will be a required submittal prior to Contract Award.

The Contract Award will be made in writing to 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 and responsibility, qualifications and financial ability of Bidders to do the work in accordance with the Contract Documents to the satisfactions of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not pass such investigation to the OWNER's satisfaction. In analyzing Bids, the OWNER may take into consideration alternate and unit prices, if requested by the Bid forms.

END OF SECTION

PART II
INFORMATION FOR BIDDERS

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PART II

INFORMATION FOR BIDDERS

1. 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 at the Division of Purchasing, at the time and in the manner set forth in the Advertisement for Bids, and the Bids will then be publicly opened and read aloud. 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 60 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 Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.

2. PREPARATION OF BID

Each bid must be submitted on the prescribed Form of Proposal. All blank spaces for the bid prices must be filled in, either in ink or typewritten, for both unit prices and extensions. Totals for each bid item must be added to show the total amount of the bid. Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, their address, the name of the project, the invitation number and time and date for which the bid is submitted. Bids must be addressed to the Director of Purchasing, Lexington-Fayette Urban County Government, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified above.

3. 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 the Form of Proposal. 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.

4. QUALIFICATION 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 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 prices, as requested. OWNER may consider maintenance requirements, performance data, and disruption or damage to private property. It is OWNER'S intent to accept alternatives, if requested by the bid forms, in the order in which they are listed in the Bid Form but OWNER may accept or decline them in any order or combination. 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 Urban County Government of the above 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. Good standing with Public Works Act - any CONTRACTOR and/or subcontractors in violation of any wage or work act provisions (KRS 337.510 to KRS 337.550) are prohibited by Statutory Act (KRS 337.990) from bidding on or working on any and all public works contracts, either in their name or in the name of any other company, firm or other entity in which he might be interested. No bid from a prime contractor in violation of the Act can be considered, nor will any subcontractor in violation of the Act be approved and/or accepted. The responsibility for the qualifications of the subcontractor is solely that of the prime contractor.
- D. 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.

- E. 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.

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.

5. BID SECURITY

- A. Each bid must be accompanied by a bid bond prepared on a Form of Bid Bond and attached hereto, 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.

6. 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.

7. 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. Bidder must agree also to pay \$500.00 per day as liquidated damages, or the sum as specified in the Contract for each consecutive calendar day thereafter as hereinafter provided in the General Conditions.

8. 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 section 4 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 paragraph 8; 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.

9. 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 in writing addressed to the Director of Central Purchasing, who in turn will have an Addendum issued for the Lexington-Fayette Urban County Government, and to be given consideration must be received prior to the date fixed for the opening of bids. 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.

10. SECURITY FOR FAITHFUL PERFORMANCE

- A. Simultaneously with his delivery of the executed Contracts, the CONTRACTOR shall furnish a surety bond or 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, as specified in the General Conditions. 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. 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.
- C. **Contractor shall use standard Performance and Payment Bond forms such as documents provided with this contract book or AIA form A312-1984 (or later). Each document will be for 100% of the Contract Bid Amount.**

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.

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 old age pension, social security, or annuities 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 proposal. 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 his Contract.

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.

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 “special” permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits as described in Part 4 General Conditions Paragraph 5.17.

15. PREVAILING WAGE LAW AND MINIMUM HOURLY RATES

Federal or state wage rates and regulations will be required for this Project, as described in the Special Conditions.

16. AFFIRMATIVE ACTION PLAN

The successful Bidder must submit with their bid, the following items to the Urban County Government:

1. Affirmative Action Plan of the firm
2. Current Work Force Analysis Form
3. Good Faith Effort Documentation
4. List of Disadvantaged Business Enterprise Subcontractors and the Dollar Value of each Subcontract

A Work Force Analysis 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 directed to:

Director, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Third Floor
Lexington, KY 40507

17. 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 Form of Proposal and the Agreement.

18. 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. 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.

19. ALTERNATE BIDS

Bidders shall submit alternate bids/proposals only if and when such alternate bids/proposals have been specifically requested in an Invitation for Bids. If alternate bids/proposals are requested in an Invitation 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 Invitation.

Any Bidder who submits a bid incorporating an alternate proposal when alternate bids/proposals have not been requested in the Invitation 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 Invitation for Bids), or which imposes conditions for acceptance other than those established in the Invitation for Bids, shall have their bid rejected as non-responsive.

20. SIGNING OF AGREEMENT

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 with all other written Contract Documents attached. Within ten days thereafter, CONTRACTOR shall sign and deliver the required number of counterparts of the Agreement 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.

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://lfucg.economicengine.com>. 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:

Marilyn Clark, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
mclark@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. 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:

Marilyn Clark, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
mclark@lexingtonky.gov

D. MWDBE Subcontractors

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

For a list of eligible subcontractors, please contact:

Marilyn Clark, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
mclark@lexingtonky.gov

22. BUY AMERICAN PROVISIONS

This project is subject to Division G, Title IV of H.R. 3547 (Appropriations Act) passed by the United States Congress on January 17, 2014. This portion of the act requires that for the construction, alteration, maintenance, or repair of a public water system or treatment works, all of the iron and steel products used in the project be produced in the United States.

In this section, the term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

This requirement shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency finds that (1) applying the requirement would be inconsistent with the public interest; (2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

END OF SECTION

PART III

FORM OF PROPOSAL

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PART III

Invitation to Bid No.

ROGERS ROAD AREA
STORMWATER IMPROVEMENTS PROJECT

1. FORM OF PROPOSAL

Place: Lexington, Kentucky

Date: _____

The following Form of Proposal shall be followed exactly in submitting a proposal for this Work.

This Proposal Submitted by _____

(Name and Address of Bidding Contractor)

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

To: Lexington-Fayette Urban County Government
(Hereinafter called "OWNER")
Office of the Director of Purchasing
200 East Main Street, 3rd Floor
Lexington, KY 40507

Gentlemen:

The Bidder, in compliance with your Invitation for Bids for **ROGERS ROAD AREA STORMWATER IMPROVEMENTS PROJECT**, Lexington, Kentucky, having examined the Plans and Specifications with related documents, having examined the site for proposed Work, and being familiar with all of the conditions 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 lump sum and/or unit prices stated hereinafter. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this proposal is a part. The OWNER will issue work orders for work to be performed under this Contract.

BIDDER hereby agrees to commence work under this contract on or before a date to be specified in the Notice to Proceed and to fully complete the project within the time provided in the Purchase Order or Work Orders issued by the OWNER. BIDDER further agrees to pay liquidated damages, the sum of \$500.00 for each consecutive calendar day thereafter.

The Bidder hereby acknowledges receipt of the following addenda:

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

Addendum No. ____ Date _____

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.

2. **LEGAL STATUS OF BIDDER**

Bidder _____

Date _____

* 1. A corporation duly organized and doing business under the laws of the State of _____, for whom _____, bearing the official title of _____, whose signature is affixed to this Bid/Proposal, is duly authorized to execute contracts.

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

* 3. An individual, whose signature is affixed to this Bid/Proposal (please print name)

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

3. BIDDERS AFFIDAVIT

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

1. His/her name is _____ and he/she is the individual submitting the bid or is the authorized representative of _____, the entity submitting the bid (hereinafter referred to as "Bidder").
2. 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 contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. 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.
5. 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 a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
6. 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."
7. 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 conduct is of that nature or that the circumstance exists.
Further, Affiant sayeth naught.

(Affiant)

STATE OF _____

COUNTY OF _____

The foregoing instrument was subscribed, sworn to and acknowledged before me by _____ on this the _____ day of _____, 20_____.

My Commission expires: _____

NOTARY PUBLIC, STATE AT LARGE

4. BID SCHEDULE – SCHEDULE OF VALUES

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.

Form of proposal must include unit bid prices written in words, unit price written in numbers and total amount bid (unit price x quantity) per line item OR bid may be considered non-responsive. In case of price discrepancy, unit bid price written in words will prevail followed by unit price written in numbers then total amount bid per line item.

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 Division uses for bid comparison.

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

The LFUCG’s decision on the bid amount is final.

The contract, if awarded, will be on the basis of materials and equipment specified in the specifications without consideration of possible substitute or “or equal” items.

The estimated quantities of items of unit price work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract price. Determination of the actual quantities and classification of unit price work performed by the Contractor will be made by the Engineer in accordance with the General Conditions.

BASE BID

(Item Numbers are as per the Construction Plans General Summary Sheet GN1.0)

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
1.	Remove Existing Storm Manhole _____ Dollars _____ Cents (Per Each)	5	EA	\$_____	\$_____
2.	Remove Existing 12” & 15” RCP Storm Pipe ----- Dollars _____ Cents (Per Linear Foot)	160	LF	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
3.	Remove Existing 18" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	144	LF	\$ _____	\$ _____
4.	Remove Existing 24" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	343	LF	\$ _____	\$ _____
5.	Remove Existing 36" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	188	LF	\$ _____	\$ _____
6.	Remove Existing 24"x18" Storm Pipe _____ Dollars _____ Cents Per Linear Foot	42	LF	\$ _____	\$ _____
7.	Remove Existing Storm Structure _____ Dollars _____ Cents Per Each	10	EA	\$ _____	\$ _____
8.	Remove Existing Sanitary Sewer Manhole _____ Dollars _____ Cents Per Each	5	EA	\$ _____	\$ _____
9.	Remove Existing VCP Sanitary Sewer Line _____ Dollars _____ Cents Per Linear Foot	317	LF	\$ _____	\$ _____
10.	Remove Existing VCP Sanitary Sewer Lateral _____ Dollars _____ Cents Per Linear Foot	20	LF	\$ _____	\$ _____
11.	Remove Existing Concrete Curb _____ Dollars _____ Cents Per Linear Foot	1,455	LF	\$ _____	\$ _____
12.	Remove Existing 4' Concrete Walk _____ Dollars _____ Cents Per Linear Foot	765	LF	\$ _____	\$ _____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
13.	Remove Existing Concrete Entrance Apron _____ Dollars _____ Cents Per Square Yard	140	SY	\$_____	\$_____
14.	Asphalt Milling _____ Dollars _____ Cents Per Square Yard	5,770	SY	\$_____	\$_____
15.	Remove Existing Headwall _____ Dollars _____ Cents Per Each	2	EA	\$_____	\$_____
16.	Asphalt Driveway Removal _____ Dollars _____ Cents Per Square Yard	73	SY	\$_____	\$_____
17.	Remove Existing Fence & Post _____ Dollars _____ Cents Per Linear Foot	128	LF	\$_____	\$_____
18.	Safe Load Existing 15" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	118	LF	\$_____	\$_____
19.	Safe Load Existing 18" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	99	LF	\$_____	\$_____
20.	Safe Load Existing 24" & 18"x24" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	476	LF	\$_____	\$_____
21.	Safe Load Existing 36" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	613	LF	\$_____	\$_____
22.	Remove Trees _____ Dollars _____ Cents Per Each	12	EA	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
23.	Grading _____ Dollars _____ Cents Per Cubic Yard	1,639	CY	\$_____	\$_____
24.	15" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	32	LF	\$_____	\$_____
25.	18" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	51	LF	\$_____	\$_____
26.	24" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	127	LF	\$_____	\$_____
27.	36" RCP Storm Pipe _____ Dollars _____ Cents Per Linear Foot	238	LF	\$_____	\$_____
28.	2.5' x 8' Concrete Box Culvert _____ Dollars _____ Cents Per Linear Foot	880	LF	\$_____	\$_____
29.	2' x 10' Concrete Box Culvert _____ Dollars _____ Cents Per Linear Foot	1,207	LF	\$_____	\$_____
30.	1.6' x 4' Concrete Box Culvert _____ Dollars _____ Cents Per Linear Foot	33	LF	\$_____	\$_____
31.	See Alternate No.1 and No2	0	LF	\$_____	\$0.00
32.	See Alternate No.1 and No2	0	LF	\$_____	\$0.00
33.	See Alternate No.1 and No2	0	LF	\$_____	\$0.00

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
34.	Storm Sewer Manhole Type A (5' Dia.) _____ Dollars _____ Cents Per Each	4	EA	\$_____	\$_____
35.	Storm Sewer Manhole Type A (6' Dia.) _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
36.	LFUCG Impact Stilling Basin (2.5' x 8' Box) _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
37.	LFUCG Curb Box Inlet Type "B" _____ Dollars _____ Cents Per Each	10	EA	\$_____	\$_____
38.	KYTC Curb Inlet Type A (7'x7' Chamber 10' Throat) _____ Dollars _____ Cents Per Each	2	EA	\$_____	\$_____
39.	Articulated Block Channel Protection _____ Dollars _____ Cents Per Square Yard	730	SY	\$_____	\$_____
40.	Concrete Pier Supports _____ Dollars _____ Cents Per Cubic Yard	30	CY	\$_____	\$_____
41.	4' Dia. Access to Box Culvert with Lid _____ Dollars _____ Cents Per Each	9	EA	\$_____	\$_____
42.	4' Dia. Access to Box Culvert with Beehive Grate _____ Dollars _____ Cents Per Each	3	EA	\$_____	\$_____
43.	4' Dia. Access to Box Culvert with Grate _____ Dollars _____ Cents Per Each	3	EA	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
44.	Transition from 2.5' x 8' to 2' x 10' Box Culvert _____ Dollars _____ Cents Per Linear Foot	6	LF	\$_____	\$_____
45.	See Alternate No.1 and No2	0	EA	\$_____	\$0.00
46.	Winged Headwall (2' x 10' Box) _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
47.	24" x 36" HERCP _____ Dollars _____ Cents Per Linear Foot	85	LF	\$_____	\$_____
48.	Storm Manhole Type B w/ 7' x 7' Chamber, Non-Circular _____ Dollars _____ Cents Per Each	2	EA	\$_____	\$_____
49.	Storm Manhole Type B w/ 6' x 6' Chamber, Non-Circular _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
50.	12" Ductile Iron Sanitary Sewer _____ Dollars _____ Cents Per Linear Foot	231	LF	\$_____	\$_____
51.	8" Ductile Iron Sanitary Sewer _____ Dollars _____ Cents Per Linear Foot	83	LF	\$_____	\$_____
52.	6" Ductile Iron Sanitary Sewer _____ Dollars _____ Cents Per Linear Foot	20	LF	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
53.	Sanitary Sewer Drop Manhole (4'Dia.) _____ Dollars _____ Cents Per Each	2	EA	\$_____	\$_____
54.	Sanitary Sewer Manhole (4'Dia.) _____ Dollars _____ Cents Per Each	6	EA	\$_____	\$_____
55.	Sanitary Sewer Manhole (5'Dia.) _____ Dollars _____ Cents Per Each	2	EA	\$_____	\$_____
56.	Connect to Existing Sanitary Sewer per MH _____ Dollars _____ Cents Per Each	11	EA	\$_____	\$_____
57.	12" X 6" Tee _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
58.	2-Way Cleanout _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
59.	Connect to Existing House Lateral _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
60.	Extra Stone Backfill _____ Dollars _____ Cents Per Ton	365	TON	\$_____	\$_____
61.	Watertight Lid and Frame _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
62.	LFUCG Entrance Aprons _____ Dollars _____ Cents Per Square Yard	151	SY	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
63.	Concrete Curb & Gutter _____ Dollars _____ Cents Per Linear Foot	1,474	LF	\$_____	\$_____
64.	4" Concrete Walk _____ Dollars _____ Cents Per Square Yard	284	SY	\$_____	\$_____
65.	Topsoil Backfill _____ Dollars _____ Cents Per Cubic yard	60	CY	\$_____	\$_____
66.	1-1/2" Asphalt Surfacing for Roadways _____ Dollars _____ Cents Per Square Yard	5,770	SY	\$_____	\$_____
67	Detectable Warning _____ Dollars _____ Cents Per Each	4	EA	\$_____	\$_____
68.	See Alternate No.1 and No2	0	SY	\$_____	\$0.00
69.	Asphalt Driveway 1" /3"/9" _____ Dollars _____ Cents Per Square Yard	73	SY	\$_____	\$_____
70.	6" Concrete Utility Cap _____ Dollars _____ Cents Per Square Yard	2,256	SY	\$_____	\$_____
71.	See Alternate No.1 and No2	0	SY	\$_____	\$0.00
72.	4' Chain Link Fence _____ Dollars _____ Cents Per Linear Foot	295	LF	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
73.	4' Temporary Wire Fence _____ Dollars _____ Cents Per Linear Foot	56	LF	\$_____	\$_____
74.	Soil Erosion & Sediment Control _____ Dollars _____ Cents Per Lump Sum	1	LS	\$_____	\$_____
75.	Tree Protection Fence _____ Dollars _____ Cents Per Linear Foot	116	LF	\$_____	\$_____
76.	Seed & Protect _____ Dollars _____ Cents Per Square Yard	1,885	SY	\$_____	\$_____
77.	Sod _____ Dollars _____ Cents Per Square Yard	2,410	SY	\$_____	\$_____
78.	Construction Staking _____ Dollars _____ Cents Per Lump Sum	1	LS	\$_____	\$_____
79.	Project Signs _____ Dollars _____ Cents Per Each	2	EA	\$_____	\$_____
80.	See Alternate No.1 and No2	0	LF	\$_____	\$0.00
81.	No. 2 Crushed Limestone _____ Dollars _____ Cents Per Ton	1860	TN	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
82.	Mobilization & Demobilization _____ Dollars _____ Cents Per Lump Sum	1	LS	\$_____	\$_____
Total Base Bid Amount					\$_____

**Alternate No. 1 ~ Water Quality Unit with Bituminous Asphalt Drive
(Item Numbers are as per the Construction Plans General Summary Sheet GN1.0)**

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
23.	Grading _____ Dollars _____ Cents Per Cubic Yard	140	CY	\$_____	\$_____
31.	60" Water Quality Unit _____ Dollars _____ Cents Per Linear Foot	108	LF	\$_____	\$_____
32.	22-1/2" X 36-1/4" RCP Arch _____ Dollars _____ Cents Per Linear Foot	137	LF	\$_____	\$_____
33.	0.75' Tall Concrete Weir – 1" Thick w/#9 Dowels _____ Dollars _____ Cents Per Linear Foot	12	LF	\$_____	\$_____
34.	Storm Sewer Manhole Type A (5' Dia.) _____ Dollars _____ Cents Per Each	4	EA	\$_____	\$_____
45.	Winged Headwall (22-1/2" x 36-1/4" RCP Arch) _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
62.	LFUCG Entrance Aprons _____ Dollars _____ Cents Per Square Yard	24	SY	\$_____	\$_____
64.	4" Concrete Walk _____ Dollars _____ Cents Per Linear Foot	29	LF	\$_____	\$_____
68.	Asphalt Driveway 1-1/2"/6"/12" _____ Dollars _____ Cents Per Square Yard	410	SY	\$_____	\$_____
71.	Geogrid BX-1200 _____ Dollars _____ Cents Per Square Yard	410	SY	\$_____	\$_____
80.	15" ADS-N12 _____ Dollars _____ Cents Per Linear Foot	43	LF	\$_____	\$_____
	Total Alternate No.1 Amount				\$_____

**Alternate No. 2 ~ Water Quality Unit with Porous Flexible Pavement Drive
(Item Numbers are as per the Construction Plans General Summary Sheet GN1.0)**

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
23.	Grading _____ Dollars _____ Cents Per Cubic Yard	140	CY	\$_____	\$_____
31.	60" Water Quality Unit _____ Dollars _____ Cents Per Linear Foot	108	LF	\$_____	\$_____

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
32.	22-1/2" X 36-1/4" RCP Arch _____ Dollars _____ Cents Per Linear Foot	137	LF	\$_____	\$_____
33.	0.75' Tall Concrete Weir – 1" Thick w/#9 Dowels _____ Dollars _____ Cents Per Linear Foot	12	LF	\$_____	\$_____
34.	Storm Sewer Manhole Type A (5' Dia.) _____ Dollars _____ Cents Per Each	4	EA	\$_____	\$_____
45.	Winged Headwall (22-1/2" x 36-1/4" RCP Arch) _____ Dollars _____ Cents Per Each	1	EA	\$_____	\$_____
62.	LFUCG Entrance Aprons _____ Dollars _____ Cents Per Square Yard	24	SY	\$_____	\$_____
64.	4" Concrete Walk _____ Dollars _____ Cents Per Square Yard	29	SY	\$_____	\$_____
68.	Porous Flexible Pavement _____ Dollars _____ Cents Per Square Yard	410	SY	\$_____	\$_____
71.	Non-Woven Filter Fabric _____ Dollars _____ Cents Per Square Yard	410	SY	\$_____	\$_____
80.	15" ADS-N12 _____ Dollars _____ Cents Per Linear Foot	43	LF	\$_____	\$_____
	Total Alternate No.2 Amount				\$_____

TOTAL Base BID OF ALL BID PRICES FOR ROGERS ROAD AREA STORMWATER IMPROVEMENTS Project (Items 1 through 81) in words and figures. In case of discrepancy, the amount shown in words will govern.

_____ (\$ _____).

TOTAL Base BID With Alternate No.1 OF ALL BID PRICES FOR ROGERS ROAD AREA STORMWATER IMPROVEMENTS Project (Items 1 through 81) in words and figures. In case of discrepancy, the amount shown in words will govern.

_____ (\$ _____).

TOTAL Base BID With Alternate No.2 OF ALL BID PRICES FOR ROGERS ROAD AREA STORMWATER IMPROVEMENTS Project (Items 1 through 81) in words and figures. In case of discrepancy, the amount shown in words will govern.

_____ (\$ _____).

Submitted by:

Firm

Address

City, State & Zip

***Bid must be signed:
(original signature)***

Signature of Authorized Company Representative – Title

Representative/s Name (Typed or Printed)

Area Code – Phone – Extension *Fax #*

E-Mail Address

OFFICIAL ADDRESS:

_____ (Seal if Bid is by Corporation)

By signing this form you agree to ALL terms, conditions, and associated forms in this bid package

5. STATEMENT OF BIDDER'S QUALIFICATIONS

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

1. Name of Bidder: _____

2. Permanent Place of Business: _____

3. When Organized: _____

4. Where Incorporated: _____

5. Construction Plant and Equipment Available for this Project:

(Attach Separate Sheet If Necessary)

6. 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.

7. In the event the Contract is awarded to the undersigned, surety bonds will be furnished by:

_____ (Surety)

Signed: _____ (Representative of Surety)

8. 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>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

10. List Key Bidder Personnel who will work on this Project.

<u>NAME</u>	<u>POSITION DESCRIPTION</u>	<u>NO. OF YEARS WITH BIDDER</u>

11. DBE Participation on current bonded projects under contract:

<u>SUBCONTRACTORS (LIST)</u>	<u>PROJECT (SPECIFIC TYPE)</u>	<u>DBE</u>	<u>% of WORK</u>

(USE ADDITIONAL SHEETS IF NECESSARY)

12. We acknowledge that, if we are the apparent low Bidder, we may be required to submit to the OWNER within 7 calendar days following the Bid Opening, a sworn statement regarding all current work on hand and under contract, and a statement on the OWNER’S form of the experience of our officers, office management and field management personnel. Additionally, if requested by the

OWNER, we will within 7 days following the request submit audited financial statements and loss history for insurance claims for the 3 most recent years (or a lesser period stipulated by the OWNER).

6. LIST OF PROPOSED SUBCONTRACTORS

The following list of proposed subcontractors is required by the OWNER to be executed, completed and submitted with the BIDDER'S FORM OF PROPOSAL. 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.

<u>BRANCH OF WORK - LIST EACH MAJOR ITEM</u> Such as: Grading, bituminous paving, concrete, seeding and protection, construction staking, etc.	<u>SUBCONTRACTOR</u>	<u>DBE</u>	<u>% of Work</u>
		<u>Yes/No</u>	
1. _____	Name: _____	_____	_____
	Address: _____		
2. _____	Name: _____	_____	_____
	Address: _____		
3. _____	Name: _____	_____	_____
	Address: _____		
4. _____	Name: _____	_____	_____
	Address: _____		
5. _____	Name: _____	_____	_____
	Address: _____		
6. _____	Name: _____	_____	_____
	Address: _____		
7. _____	Name: _____	_____	_____
	Address: _____		

(Attach additional sheet(s) if necessary.)

7. EPA DBE SUBCONTRACTOR PARTICIPATION FORMS



OMB Control No: 2090-0030
 Approved: 8/13/2013
 Approval Expires: 8/31/2015

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form**

Please use the space below to report any concerns regarding the above EPA-funded project:

Subcontractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.



**Disadvantaged Business Enterprise (DBE) Program
 DBE Subcontractor Performance Form**

This form is intended to capture the DBE¹ subcontractor's² description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractor's bid or proposal package.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor
DBE Certified By: <input type="checkbox"/> DOT <input type="checkbox"/> SBA		Meets/ exceeds EPA certification standards?
<input type="checkbox"/> Other: _____		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Unknown

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Performance Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	Date

Subcontractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	__ YES	__ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?

Continue on back if needed

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

**Disadvantaged Business Enterprise (DBE) Program
DBE Subcontractor Utilization Form**

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	Date

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

8. AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND CONFLICT OF INTEREST

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

1. 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);
2. 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 Invitation to Bid, designed to limit independent bidding or competition;
3. 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;
4. 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;
5. (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.
6. This offer is for 60 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, a contract shall thereby be created with respect to the items accepted.
7. That I have fully informed myself regarding the accuracy of the statements made in this statement.
8. 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.

9. STATEMENT OF EXPERIENCE

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

* Include all officers, office management's, Affirmative Action officials, and field management personnel. (Attach separate sheets if necessary.)

10. 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 a contract 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

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 count, 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 contract 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 – 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.

It is recommended that all of the provisions quoted above to be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

11. EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY

It is the policy of _____
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.

12. WORKFORCE ANALYSIS FORM

Name of Organization: _____

Date: _____ / _____ / _____

Categories	Total	White		Black		Other		Total	
		M	F	M	F	M	F	M	F
Administrators									
Professionals									
Superintendents									
Supervisors									
Foremen									
Technicians									
Protective Service									
Para-Professionals									
Office/Clerical									
Skilled Craft									
Service/Maintenance									
Total:									

Prepared By: _____

13. EVIDENCE OF INSURABILITY

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT CONSTRUCTION PROJECT
(Use separate form for each Agency or Brokerage agreeing to provide coverage)

Names Insured: _____

Employee ID: _____

Address: _____

Phone: _____

Project to be insured: **ROGERS ROAD AREA STORMWATER IMPROVEMENTS PROJECT**

In lieu of obtaining certificates of insurance at this time, the undersigned agrees to provide the above Named Insured with the minimum coverage listed below. These are outlined in the Insurance and Risk Management of Part V (Special Conditions), including all requirements, and conditions:

Section Items	Coverage	Minimum Limits and Policy Requirements	Limits Provided To Insured	Name of Insurer	A.M. Best's	
					Code	Rating
SC-3, Section 2, Part 4.1 – see provisions	CGL	\$1,000,000 per occ. And \$2,000,000 aggregate	\$			
SC-3, Section 2, Part 4.1 – see provisions	AUTO	\$2,000,000/per occ.	\$			
SC-3, Section 2, Part 4.1 – see provisions	WC	Statutory w /endorsement as noted	\$			

Section 2 includes required provisions, statements regarding insurance requirements, and the undersigned agrees to abide by all provisions for the coverage's checked above unless stated otherwise when submitting.

Agency or Brokerage

Name of Authorized Representative

Street Address

Title

City State Zip

Authorized Signature

Telephone Number

Date

NOTE: Authorized signatures may be the agent's if agent has placed insurance through an agency agreement with the insurer. If insurance is brokered, authorized signature must be that of authorized representative of insurer.

IMPORTANT: Contract may not be awarded if a completed and signed copy of this form for all coverage's listed above is not provided with the bid.

14. DEBARRED FIRMS

PROJECT NAME: ROGERS ROAD AREA STORMWATER IMPROVEMENTS PROJECT

BID NUMBER: 160-2015

**LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
LEXINGTON, KY**

All prime Contractors shall certify that Subcontractors have not and will not be awarded to any firms that has been debarred for 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.

All bidders shall complete the attached certification in duplicate and submit both copies to the Owner with the bid proposal. The Owner (grantee) shall transmit one copy to the Lexington-Fayette Urban County Government, Division of Community Development, within fourteen (14) days after bid opening.

The undersigned hereby certifies that the firm of _____ has not and will not award a subcontract, in connection with any contract award to it as the result of this bid, to any firm that has been debarred for noncompliance with the Federal labor Standards, Title VI of the civil Rights Act of 1964, Executive Order 11246 as amended or any Federal Law.

Name of Firm Submitting Bid

Signature of Authorized Official

Title

Date

15. DEBARMENT CERTIFICATION

All contractors/subcontractors shall complete the following certification and submit it with the bid proposal.

The contractor/subcontractor certifies in accordance with Executive Order 12549 (Debarment and Suspension 2/18/86) that to the best of its knowledge and belief, that it and its principals:

- 1) Are not presently debarred, suspended, proposed for debarment, declared negligible, or voluntarily excluded from covered transactions or contract by any Federal department or agency for 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;
 - a) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - b) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(a) of this certification; and
 - c) Have not within a three year period preceding this bid has one or more public (Federal, State or local) transactions or contracts terminated for cause or default.
- 2) Where the contractor is unable to certify to any of the statements in this certification, such prospective contractors shall attach an explanation to this certification form.

Firm Name: _____

Project: _____

Printed Name and Title of Authorized Representative: _____

Signature: _____

Date: _____

END OF SECTION

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GENERAL CONDITIONS
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PART IV

GENERAL CONDITIONS

1. DEFINITIONS

Wherever used in these General Conditions or the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

1.1 Addenda

Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bid Documents or the Contract Documents.

1.2 Agreement

The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3 Application for Payment

The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

1.4 Bid

The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.5 Bidder

An individual, partnership, or corporation, who submit a Bid for a prime contract with the OWNER, for the Work described in the proposed Contract Documents.

1.6 Bonds

Bid, performance and payment bonds and other instruments of security.

1.7 Calendar Day

A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

1.8 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 Time, issued on or after the Effective Date of the Agreement.

1.9 Contract Documents

The Advertisement for Bidders, Information for Bidders, 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 Bonds, these General Conditions, the Special Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements.

1.10 Contract Unit Price

The monies payable by OWNER to CONTRACTOR under the Contract Documents as stated in the Agreement. Unit Prices are to be firm for the term of this Contract.

1.11 Contract Time

The number of consecutive calendar days between the date of issuance of the Notice to Proceed and the contract completion date.

1.12 CONTRACTOR

The person, firm or corporation with whom OWNER has entered into the Agreement.

1.13 Defective

An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER).

1.14 Drawings

The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents.

1.15 Effective Date of the Agreement

The date indicated in the Agreement on which it becomes effective.

1.16 ENGINEER

The Lexington-Fayette Urban County Government Division of Water Quality or its authorized representative.

1.17 Field Order

A documented order issued by ENGINEER which orders minor changes in the Work, but which does not involve a change in the Contract Price or the Contract Time.

1.18 Giving Notice

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

1.19 Laws and Regulations

Laws, rules, regulations, ordinances, codes and/or orders.

1.20 Notice of Award

The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.21 Notice to Proceed

A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.

1.22 OWNER

The Lexington-Fayette Urban County Government.

1.23 Partial Utilization

Placing a portion of the Work in service for the purpose for which it is intended (or related purpose) before reaching Completion for all the Work.

1.24 Project

The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.25 Inspector

The authorized representative of the ENGINEER who is assigned to the site or any part thereof.

1.26 Shop Drawings

All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

1.27 Specifications

Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

1.28 Standard Specifications

The "Standard Specifications for Road and Bridge Construction", Transportation Cabinet, Department of Highways, Commonwealth of Kentucky, current edition. MUTCD shall refer to the "Manual of Uniform Traffic Control Devices.

1.29 Subcontractor

An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.30 Special Conditions

The part of the Contract Documents which amends or supplements these General Conditions.

1.31 Supplier

A manufacturer, fabricator, supplier, distributor, materialman or vendor.

1.32 Underground Facilities

All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.33 Unit Price Work

Not applicable

1.34 Work

The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

1.35 Time Period

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.

2. PRELIMINARY MATTERS

2.1 Delivery of Bonds

When the CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER, such Bonds, Insurance Certificate, and Power of Attorney as CONTRACTOR may be required to furnish.

2.2 Copies of Documents

Owner shall furnish to CONTRACTOR up to three copies (unless otherwise specified in the Special Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

2.3 Commencement of Contract Time; Notice to Proceed

The Contract Time will commence to run on the day specified in the Notice to Proceed.

2.4 Starting the Project

CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

2.5 Before Starting Construction

Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents, unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

2.6 Submittal of Schedules

Within ten days after the effective date of the Agreement (unless otherwise specified) CONTRACTOR shall submit to ENGINEER for review:

2.6.1 an estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

2.6.2 a preliminary schedule of Shop Drawing submissions; and

2.6.3 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Preconstruction Conference

Before CONTRACTOR starts the Work at the proposed site, a conference attended by CONTRACTOR, ENGINEER, EEO-Affirmative Action Officer, and other appropriate parties will be held to discuss the following issues: (1) The scheduling of the Work to be completed; (2) The procedures for handling shop drawings and other submittals; (3) The processing of applications for payment; (4) The establishment of an understanding among the involved parties in regard to the proposed project; and (5) The establishment of procedures for effectively implementing the LFUCG's 10% minimum DBE goals.

2.8 Finalizing Schedules

At least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to ENGINEER as providing orderly progression of the Work to completion within the Contract Time, but such

acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility thereof. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

3. CONTRACT DOCUMENTS: INTENT, CONFLICTS, AMENDING AND REUSE

3.1 General

The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2 Intent

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 Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard 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. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 8.4.

3.3 Conflicts

If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order:

1. Agreement
2. Field and Change Orders
3. Addenda
4. Special Conditions
5. Instruction to Bidders
6. General Conditions
7. Specifications and Drawings

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

3.4 Amending and Supplementing Contract Documents

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 means of a Change Order or a Field Order. Contract Price and Contract Time may only be changed by a Change Order.

3.5 Reuse of Documents

Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

4. AVAILABILITY OF LANDS; PHYSICAL CONDITIONS, REFERENCE POINTS

4.1 Availability of Lands

OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, rights-of-way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11. ENGINEER shall determine if the claim is legitimate or not. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 Physical Conditions

4.2.1 Explorations and Reports

Reference is made to the Special Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.

4.2.2 Existing Structures

Reference is made to the Special Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities referred to in paragraph 4.3 which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.

4.2.3 Report of Differing Conditions

If CONTRACTOR believes that:

4.2.3.1 any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2 any physical conditions uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the Contract Documents,

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

4.2.4 ENGINEER'S Review

Engineer will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise CONTRACTOR of ENGINEER'S findings and conclusions.

4.2.5 Possible Document Change

If ENGINEER concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change I the Contract Documents is required, a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6 Possible Price and Time Adjustments

In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference.

4.3 **Physical Conditions-Underground Facilities**

4.3.1 Shown or Indicated

The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such underground facilities or by others. Unless it is otherwise expressly provided in the Special Conditions:

4.3.1.1 OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,

4.3.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data; for locating all underground facilities shown or indicated in the Contract Documents; for coordination of the Work with the owners of such underground facilities during construction; and for the safety and protection thereof and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2 Not Shown or Indicated

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

4.4 **Reference Points**

OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible

for laying out the Work (unless otherwise specified), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by a Registered Land Surveyor.

5. CONTRACTOR'S RESPONSIBILITIES

5.1 Supervision

CONTRACTOR shall supervise 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 assure that all CONTRACTOR personnel (including subcontractors, etc.) conduct themselves in a courteous and respectful manner toward the ENGINEER and the general public. Failure to comply with this condition of the Contract will result in immediate suspension of the Work. Following a review by the Commissioner of Public Works, the Contract may be terminated (see GC section 14). CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

5.2 Superintendence

CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

5.3 Labor

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. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent given after prior written notice to ENGINEER.

5.4 Start-Up and Completion of Work

Unless otherwise specified, CONTRACTOR shall furnish and assume full responsibility for all 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 furnishing, performance, testing, start-up and completion of the Work.

5.5 Materials and Equipment

All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

5.5.1 Not Clearly Specified or Indicated

In all instances where materials specified are obtainable in different sizes, weights, trade grades, qualities or finishes, etc., whose weights, trade grades, qualities or finishes, etc., are not clearly specified or indicated on the Drawings, the CONTRACTOR shall notify the ENGINEER of all such instances at least five (5) days in advance of receiving the proposals. The Engineer will then determine which size, weight, trade grade, quality, finish, etc., is required.

5.5.2 Coordination of Work

The CONTRACTOR shall see that for his own Work and for the work of each subcontractor, proper templates and patterns necessary for the coordination of the various parts of the Work are prepared. The CONTRACTOR shall furnish or require the Subcontractor to furnish such duplicates as will enable the Subcontractors to fit together and execute fully their respective portions of the Work.

5.6 Adjusting Progress Schedule

CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.8) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the Contract Documents applicable thereto.

5.7 Substitutes or “Or-Equal” Items

5.7.1 General

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by OWNER/ENGINEER if sufficient information is submitted by CONTRACTOR to allow

OWNER/ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by OWNER/ENGINEER will include the following. Requests for review of substitute items of material and equipment will not be accepted by OWNER/ENGINEER from anyone, other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to OWNER/ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by OWNER/ENGINEER in evaluating the proposed substitute. OWNER/ENGINEER may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

5.7.2 Substitutes

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to OWNER/ENGINEER, if CONTRACTOR submits sufficient information to allow OWNER/ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by OWNER/ENGINEER will be similar to that provided in paragraph 5.7.1 as applied by OWNER/ENGINEER.

5.7.3 OWNER/ENGINEER'S Approval

OWNER/ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. OWNER/ENGINEER will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without OWNER/ENGINEER'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. OWNER/ENGINEER will record time required by OWNER/ENGINEER and OWNER/ENGINEER'S consultants in evaluating substitutions proposed by CONTRACTOR and in making

changes in the Contract Documents occasioned thereby. Whether or not OWNER/ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of OWNER/ENGINEER and OWNER/ENGINEER'S consultants for evaluating each proposed substitute.

5.8 Subcontractors, Suppliers, and Others

5.8.1 Acceptable to ENGINEER

CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 5.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

5.8.2 Objection After Due Investigation

If the Contract Documents require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER and if CONTRACTOR has submitted a list thereof, OWNER'S or ENGINEER'S acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

5.8.3 Contractor Responsible for Acts of Subcontractors

The CONTRACTOR shall perform on the site, and with its own organization, work equivalent to at least fifty (50) percent 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 Urban County Engineer determines that the reduction would be to the advantage of the Urban County Government.

The CONTRACTOR shall, at the time he submits his proposal for the Contract, notify the OWNER in writing of the names of Subcontractors proposed for the Work. He shall not employ any Subcontractor without the prior written approval of the OWNER.

CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers and other persons and

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

5.8.4 Division of Specifications

The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

5.8.5 Agreement Between Contractor and Subcontractors

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

5.8.6 Statements and Comments by CONTRACTOR

Neither the CONTRACTOR, his employees, nor his subcontractors shall at any time make any statement or comment as to the project scope, nature, intention, design, or construction method to any third party or parties without the explicit written consent of the OWNER.

Any third party requesting such information shall be referred to the OWNER or his representative.

Should there be any change from the original intent of the project as a result of any statement or comment by the contractor, his employees or subcontractors, contractor shall be held liable for any change in the scope, nature, design, or construction method and shall bear the full cost for the previously mentioned changes.

5.9 Patent Fees and Royalties

CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others.

5.10 Permits

Unless otherwise provided in the Special conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses.

CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

5.11 Laws and Regulations

5.11.1 CONTRACTOR to Comply

CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR'S compliance with any Laws and Regulations.

5.11.2 Specifications and Drawings at Variance

If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.4. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws, or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

5.12 Taxes

CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work. Any party, firm or individual submitting a proposal pursuant to invitation must have paid all taxes owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

5.13 Use of Premises

5.13.1 Project Site

CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the staging areas or work site areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or

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

5.13.2 Clean UP

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

5.13.1 Loading of Structures

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

5.14 Record Drawings

CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Change Orders, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to ENGINEER for OWNER.

5.15 Shop Drawings and Samples

5.15.1 Shop Drawing Submittals

After checking and verifying all field measurements and after complying with applicable procedures specified, CONTRACTOR shall submit to ENGINEER for review and approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.8), or for other appropriate action if so indicated in the Special Conditions, five copies (unless otherwise specified) of all Shop Drawings, which will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as

ENGINEER may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable ENGINEER to review the information as required.

5.15.2 Sample Submittals

CONTRACTOR shall also submit to ENGINEER for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

5.15.3 Review by CONTRACTOR

Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

5.15.4 Notice of Variation

At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.

5.15.5 ENGINEER'S Approval

ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, but ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit, as required, new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

5.15.6 Responsibility for Errors and Omissions

ENGINEER'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the

requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of submission as required by paragraph 5.15.4 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 5.15.3.

5.15.7 Cost of Related Work

Where a Shop or sample is required by the Specifications, any related Work performed prior to ENGINEER'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

5.16 Continuing the Work

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolutions of any disputes or disagreements, except as permitted by paragraph 14.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

5.17 Erosion and Sediment Control

5.17.1 General Environmental Requirements

The CONTRACTOR and Subcontractors performing work on projects on behalf of the OWNER shall comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in "special" permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits.

Any fines or penalties resulting from the failure to comply with the terms of the federal, state or local permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

5.17.2 Stormwater Pollution Prevention

A. The CONTRACTOR shall exercise due care to prevent or minimize any damage to any stream or wetland from pollution by debris, sediment or other material. The operation of equipment and/or materials in a jurisdictional wetland is expressly prohibited. Water that has been used for washing or processing, or that contains oils, sediments or other pollutants shall not be discharged from the job site. Such waters shall be collected and properly disposed of by the CONTRACTOR in accordance with applicable local, state and federal law.

B. The CONTRACTOR is solely responsible for securing all required state and local permits associated with stormwater discharges from the project including, but not necessarily limited to the KY Notice of Intent to Disturb (NOI) for Coverage of Storm Water Discharges Associated with Construction Activities under the KPDES Storm Water General Permit KYR100000 and the LFUCG, Land Disturbance Permit. Permit

application preparation and all required documentation are the responsibility of the CONTRACTOR. The CONTRACTOR is solely responsible for maintaining compliance with the stormwater pollution prevention plan or erosion and sediment control plan and ensuring the following:

- a. That the Stormwater Pollution Prevention Plan (SWPPP) or erosion control plan is current and available for review on site;
- b. That any and all stormwater inspection reports required by the permit are conducted by qualified personnel and are available for review onsite; and
- c. That all best management practices (BMPs) are adequately maintained and effective at controlling erosion and preventing sediment from leaving the site.

C. The CONTRACTOR shall provide the necessary equipment and personnel to perform any and all emergency measures that may be required to contain any spillage or leakage and to remove materials, soils or liquids that become contaminated. The collected spill material shall be properly disposed at the CONTRACTOR's expense.

D. Upon completion of the work and with the concurrence of the OWNER, the CONTRACTOR must file a Notice of Termination (NOT) of Coverage Under the KPDES General Permit for Storm Water Discharges Associated with Construction Activity with the appropriate local and state authorities.

E. Any fines or penalties resulting from the failure to comply with the terms of the state or local stormwater permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

6. OTHER WORK

6.1 Related Work at Site

OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefor which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and, if such performance will involve additional expense to CONTRACTOR or requires additional time, a Change Order to the Contract will be negotiated.

6.2 Other Contractors or Utility Owners

CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with

such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

6.3 Delays Caused by Others

If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR'S Work except for latent or non-apparent defects and deficiencies in the other work.

6.4 Coordination

If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Special Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Special Conditions.

7. OWNER'S RESPONSIBILITIES

7.1 Communications

OWNER shall issue all communications to CONTRACTOR through ENGINEER.

7.2 Data and Payments

OWNER shall furnish the data required of OWNER under the Contract Documents promptly after they are due.

7.3 Lands, Easements, and Surveys

OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.

7.4 Change Orders

OWNER is obligated to execute Change Orders as indicated in paragraph 9.4.

7.5 Inspections, Tests and Approvals

OWNER'S responsibility in respect to certain inspections, tests and approvals is set forth in paragraph 13.3.

7.6 Stop or Suspend Work

In connection with OWNER'S right to stop Work or suspend Work, see paragraph 12.4 and 14.1 Paragraph 14.2 deals with OWNER'S rights to terminate services of CONTRACTOR under certain circumstances.

8. ENGINEER'S STATUS DURING CONSTRUCTION

8.1 OWNER'S Representative

ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

8.2 Visits to Site

ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

8.3 Project Representation

ENGINEER will provide an Inspector to assist ENGINEER in observing the performance of the Work. If OWNER designates another agent to represent OWNER at the site who is not ENGINEER'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be as provided in the Special Conditions.

8.4 Clarifications and Interpretations

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

8.5 Authorized Variations in Work

ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order.

8.6 Rejecting Defective Work

ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 12.3, whether or not the Work is fabricated, installed or completed.

8.7 Shop Drawings

In connection with ENGINEER'S responsibility for Shop Drawings and samples, see paragraphs 5.15.1 through 5.16 inclusive.

8.8 Change Orders

In connection with ENGINEER'S responsibilities as to Change Orders, see Articles 10, 11 and 12.

8.9 Payments

In connection with ENGINEER'S responsibilities with respect to Applications for Payment, etc., see Article 13.

8.10 Determinations for Unit Prices

ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR.

ENGINEER will review with CONTRACTOR ENGINEER'S preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise).

8.11 Decision on Disputes

ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 10 and 11 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER within sixty days after such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim.

8.12 Limitations on Engineer's Responsibilities

8.12.1 CONTRACTOR, Supplier, or Surety

Neither ENGINEER'S authority to act under this Article 8 or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

8.12.2 To Evaluate the Work

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives or like "effect" or "import" are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

8.12.3 CONTRACTOR'S Means, Methods, Etc.

ENGINEER will not be responsible for CONTRACTOR'S means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the Contract Documents.

8.12.4 Acts of Omissions of CONTRACTOR

ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9. CHANGES IN THE WORK

9.1 OWNER May Order Change

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

9.2 Claims

Claims for an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Change Order will be settled as provided for in Article 10 or Article 11.

9.3 Work Not in Contract Documents

CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraph 3.4, except in the case of an emergency and except in the case of uncovering Work as provided in paragraph 12.3.4.

9.4 Change Orders

OWNER and CONTRACTOR shall execute appropriate Change Orders covering:

9.4.1 changes in the Work which are ordered by OWNER pursuant to paragraph 9.1, are required because of acceptance of defective Work under paragraph 12.7 or corrective defective Work under paragraph 12.8, or are agreed to by the parties;

9.4.2 changes in the Contract Price or Contract Time which are agreed to by the parties; and

9.4.3 changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 8.11; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and REGULATIONS, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 5.16.

9.4.3 change orders exceeding \$100,000 require cost, pricing and certification, as required by the DOW Procurement Guidance for Construction and Equipment Contracts.

9.5 Notice of Change

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

10. CHANGE OF CONTRACT PRICE

10.1 Total Compensation

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

10.2 Claim for Increase or Decrease in Price

The Contract Price may only be changed by a Change Order. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data as required by DOW Procurement Guidance for Construction and Equipment Contracts shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by CONTRACTOR'S written statement that the amount claimed covers all known amounts (direct, indirect, and

consequential) to which the CONTRACTOR is entitled as a result of the occurrence of said event.

10.3 Value of Work

The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

10.3.1 Unit Prices

Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraphs 10.9.1. through 10.9.3, inclusive).

10.3.2 Lump Sum

By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 10.6.2.1).

10.3.3 Cost Plus Fee

On the basis of the Cost of the Work (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTOR'S fee for overhead and profit (determined as provided in paragraphs 10.6 and 10.7).

10.4 Cost of the Work

The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project; shall include only the following items; and shall not include any of the costs itemized in paragraph 10.5:

10.4.1 Payroll Costs

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

10.4.2 Materials and Equipment Costs

Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash

discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

10.4.3 Subcontractor Costs

Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER, which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR'S Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

10.4.4 Special Consultant Costs

Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

10.4.5 Supplemental Costs

10.4.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

10.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

10.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal shall be in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

10.4.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

10.4.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

10.4.5.6 Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR'S fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid a fee proportionate to that stated in paragraph 10.6.2 for services.

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

10.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

10.4.5.9 Cost of premiums for additional Bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by OWNER.

10.5 Not to Be Included in Cost of the Work

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

10.5.1 Costs of Officers and Executives

Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in

CONTRACTOR'S principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by paragraph 10.4.4 - all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

10.5.2 Principal Office

Expenses of CONTRACTOR'S principal and branch offices other than CONTRACTOR'S office at the site.

10.5.3 Capital Expense

Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the Work and charges against CONTRACTOR for delinquent payments.

10.5.4 Bonds and Insurance

Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5.9 above).

10.5.5 Costs Due to Negligence

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

10.5.6 Other Costs

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

10.6 Contractor's Fee

The CONTRACTOR'S Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

10.6.1 a mutually acceptable fixed fee; or if none can be agreed upon,

10.6.2 a fee based on the following percentages of the various portions of the Cost of the Work:

10.6.2.1 for costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR'S fee shall be fifteen percent;

10.6.2.2 for costs incurred under paragraph 10.4.3, the CONTRACTOR'S fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors shall be fifteen percent;

10.6.2.3 no fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;

10.6.2.4 the amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR'S Fee by an amount equal to ten percent of the net decrease; and

10.6.2.5 when both additions and credits are involved in any one change, the adjustment in CONTRACTOR'S fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.1 through 10.6.2.4, inclusive.

10.7 Itemized Cost Breakdown

Whenever the cost of any Work is to be determined pursuant to paragraph 10.4 or 10.5, CONTRACTOR will submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

10.8 Cash Allowances

It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to ENGINEER, CONTRACTOR agrees that:

10.8.1 Materials and Equipment

The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

10.8.2 Other Costs

CONTRACTOR'S costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

10.8.3 Change Order

Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.9 Unit Price Work

10.9.1 General

Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with Paragraph 8.10.

10.9.2 Overhead and Profit

Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

10.9.3 Claim for Increase in Unit Price

Where the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement and there is no corresponding adjustment with respect to any other item of Work and if CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof, CONTRACTOR may make a claim for an increase in the Contract Price in accordance with Article 10.

11. CHANGE OF CONTRACT TIME

11.1 Change Order

The Contract Time may only be changed by a Change Order. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an

additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with paragraph 8.11. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 11.1.

11.2 Justification for Time Extensions

The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 11.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 6, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

11.3 Time Limits

All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 11 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) for delay by either party.

12. WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

12.1 Warranty and Guarantee

CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the Contract Documents and will not be defective. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 12.

12.2 Access to Work

ENGINEER and ENGINEER'S representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspections

12.3.1 Timely Notice

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

12.3.2 Requirements and Responsibilities

The ENGINEER may require such inspection and testing during the course of the Work as he/she deems necessary to ascertain and assure the integrity and acceptable quality of the materials incorporated and the work performed. Inspection presence may be either full-time or intermittent, and neither the presence nor absence at any time of the ENGINEER or the INSPECTOR

shall relieve the CONTRACTOR of sole responsibility for the acceptability and integrity of the Work or any part thereof.

The costs of sampling, testing, and inspection on-site to ascertain acceptability of the Work and materials will be borne by the OWNER except as otherwise provided. The OWNER will select a testing laboratory to perform such sampling and testing. Sampling and/or testing required by the CONTRACTOR or necessitated by failure of Work or materials to meet the above acceptability test shall be at the expense of the CONTRACTOR.

Inspection services may be performed by the employees of the OWNER or by others selected or designated by the OWNER or the ENGINEER.

Sampling and/or testing required for manufacturing quality and/or process control, for certification that raw mineral materials or manufactured products are the quality specified in the contract, or to assure the acceptability for incorporation into the Work shall be borne by the CONTRACTOR or the material supplier.

Cost for inspection, sampling, testing, and approvals required by the laws or regulations of any public body having competent jurisdiction shall be borne by the CONTRACTOR or the material supplier.

Sampling and testing will be in accord with pertinent codes and regulations and with appropriate standards of the American Society of Testing Materials or other specified standards.

12.3.3 On-Site Construction Test and Other Testing

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

12.3.4 Covered Work

If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

12.3.5 CONTRACTOR'S Obligation

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

12.4 OWNER May Stop the Work

If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or 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 or any other party.

12.5 Correction or Removal of Defective Work

If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

12.6 One Year Correction Period

If within one year after the date of Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Change Order.

12.7 Acceptance of Defective Work

If, instead of requiring correction or removal and replacement of defective Work, OWNER prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER'S evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

12.8 OWNER May Correct Defective Work

If CONTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 12.5, 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 and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and 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 such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, 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. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

13. PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values

The schedule of values established as provided in paragraph 2.8 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.

13.2 Application for Progress Payment

Provisions for timely periodic payments and for limiting retainage (40 CFR 31.36) shall be as described in the following. At least ten days before each progress payment is scheduled (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, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. OWNER shall, within thirty (30) calendar days of presentation to him of an approved

Application for Payment, pay CONTRACTOR the amount approved by ENGINEER. Monthly progress payments shall be ninety (90) percent of the sum obtained by applying the respective bid unit prices to the approved estimated quantities of work completed by the Contractor during the preceding month. The remaining ten (10) percent will be held by the Owner, as retainage. At such time as the Engineer deems appropriate - based on the quality of work performed, progress of cleanup, and other pertinent factors - the rate of retainage, or the total amount retained, may be reduced; although, any reduction in retainage, below the ten (10) percent level, is made solely at the Engineer's discretion. All remaining retainage held will be included in the final payment to the Contractor.

13.3 CONTRACTOR'S Warranty of Title

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.

13.4 Review of Applications for Progress Payment

13.4.1 Submission of Application for Payment

ENGINEER will, 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.

13.4.2 ENGINEER'S Recommendation

ENGINEER may refuse to recommend the whole or any part of any payment, if, in ENGINEER'S opinion, it would be incorrect to make such representations to OWNER. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

13.4.2.1 the Work is defective, or completed Work has been damaged requiring correction or replacement;

13.4.2.2 the Contract Price has been reduced by Written Amendment or Change Order;

13.4.2.3 OWNER has been required to correct defective Work or complete Work in accordance with paragraph 12.8; or

13.4.2.4 of ENGINEER'S actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1 through 14.2.9 inclusive.

13.5 Partial Utilization

OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and has been completed. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER that said part of the Work is complete and request that a Certificate of Completion be issued for that part of the Work.

13.6 Final Inspection

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

13.7 Final Application for Payment

After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 5.14) and other documents - all as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 13.10), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

13.8 Final Payment and Acceptance

13.8.1 ENGINEER'S Approval

If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the Contract Documents have been fulfilled, ENGINEER will, after receipt of the final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application to OWNER for payment. Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable, subject to the provisions of paragraph 13.10. Otherwise, ENGINEER will return the Application to

CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application.

13.8.2 Delay in Completion of Work

If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 10 of Part II, Information for Bidders, 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.

13.9 CONTRACTOR'S Continuing Obligation

CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 13.10).

13.10 Waiver of Claims

The making and acceptance of final payment will constitute:

13.10.1 a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the Contract Documents; and

13.10.2 a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

14. SUSPENSION OF WORK AND TERMINATION

14.1 OWNER May Suspend Work

OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to 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 allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 10 and 11.

14.2 OWNER May Terminate

The OWNER may terminate the Work upon the occurrence of any one or more of the following events:

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

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

14.2.3 if CONTRACTOR makes a general assignment for the benefit of creditors;

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

14.2.5 if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

14.2.6 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.8 as revised from time to time);

14.2.7 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

14.2.8 if CONTRACTOR disregards the authority of ENGINEER, or

14.2.9 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

14.2.10 If safety violations are observed and brought to the Contractors attention and Contractor fails to take immediate corrective measures any repeat of similar safety violations, Owner will order an immediate termination of contract. Note: it is the Contractor's responsibility to know proper safety measures as they pertain to construction and OSHA.

14.2.11 This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.

14.2.12 This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.

14.3 CONTRACTOR'S Services Terminated

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.

14.4 Payment After Termination

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

14.5 CONTRACTOR May Stop Work or Terminate

If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within sixty days after it is submitted, or OWNER fails for sixty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 5.16 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

15. MISCELLANEOUS

15.1 Claims for Injury or Damage

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 15.1 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

15.2 Non-Discrimination in Employment

The CONTRACTOR shall comply with the following requirements prohibiting discrimination:

15.2.1 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.

15.2.2 That it is an unlawful practice for an employer:

15.2.2.1 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

15.2.2.2 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.

15.2.3 That it is an 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.

15.2.4 That a copy of this Ordinance shall be furnished all suppliers and made a part of all bid specifications.

15.2.5 This Ordinance shall take effect after it is signed, published and recorded, as required by law.

15.3 Temporary Street Closing or Blockage

The CONTRACTOR will notify the ENGINEER at least 72 hours prior to making any temporary street closing or blockage. This will permit orderly notification to all concerned public agencies. Specific details and restrictions on street closure or blockage are contained in the Special Conditions.

15.4 Percentage of Work Performed by prime CONTRACTOR

The CONTRACTOR shall perform on site, and with its own organization, Work equivalent to at least fifty (50%) percent 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.

15.5 Clean-up

Cleanup 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.

15.6 General

The duties and obligations imposed by these General Conditions 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 by paragraphs 12.1, 12.3.5, 13.3, and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, 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.

15.7 Debris Disposal

For all LFUCG projects any 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.

SUPPLEMENTAL GENERAL CONDITIONS

FOR

CLEAN WATER STATE REVOLVING FUND

DRINKING WATER STATE REVOLVING FUND

(Drinking Water and Wastewater)

Project Name: Rogers Road Area Stormwater Improvements Project

Project Number: _____

The attached instructions and regulations as listed below shall be incorporated into the Specifications and comprise Special Conditions.

	<u>Attachment No.</u>
SRF Special Provisions	1
KRS Chapter 45A-Kentucky Model Procurement Code	2
Equal Employment Opportunity (EEO) Documents:	
Notice of Requirement for Affirmative Action	3
Contract Specifications (Executive Order 11246)	4
EEO Goals for Region 4 Economic Areas	5
Special Notice #1 - Check List of EEO Documentation	6
Employer Information Report EEO-1 (SF 100)	7
Labor Standards Provisions for Federally Assisted Construction, EPA Form 5720-4	8
Certifications	
Debarment, Suspension and Other Responsibility Matters	9
Anti-lobbying	10
Region 4 Disadvantaged Business Enterprise (DBE)	11
Bonds and Insurance	12
Storm Water General Permit	13
Davis-Bacon Wage Rate Requirements under FY 2013 Continuing Resolution	14
American Iron and Steel Requirement	15

SRF SPECIAL PROVISIONS

- (a) Line crossings of all roads and streets shall be done in accordance with the Kentucky Transportation Cabinet requirements as may be set forth in the Special Conditions.
- (b) Construction is to be carried out so as to prevent by-passing of flows during construction unless a schedule has been approved by the State or EPA, whichever is applicable. Siltation and soil erosion must be minimized during construction. All construction projects with surface disturbance of more than 1 acre during the period of construction must have a KPDES Storm Water General Permit. The permit can be found at the following web address: <https://dep.gateway.ky.gov/eForms/default.aspx?FormID=7>.

If you have any questions regarding the completion of this form call the Surface Water Permits Branch at (502) 564-3410.

- (c) Restore disturbed areas to original or better condition.
- (d) Use of Chemicals: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either DOW or EPA. Use of all such chemicals and disposal of residues shall be in conformance with instructions on the manufacturer's label.
- (e) The construction of the project, including the letting of contracts in connection therewith, shall conform to the applicable requirements of state, territorial, and local laws and ordinances to the extent that such requirements do not conflict with Federal laws and this subchapter.
- (f) The owner shall provide and maintain competent and adequate supervision and inspection.
- (g) The Kentucky Infrastructure Authority and Kentucky Division of Water shall have access to the site and the project work at all times.
- (h) In the event Archaeological materials (arrowheads, stone tools, stone axes, prehistoric and historic pottery, bottles, foundations, Civil War artifacts, and other types of artifacts) are uncovered during the construction of this project, work is to immediately cease at the location and the Kentucky Heritage Council shall be contacted. The telephone number is (502) 564-7005. Construction shall commence at this location until a written release is received from the Kentucky Heritage Council. Failure to report a find could result in legal action.
- (i) This procurement will be subject to DOW Procurement Guidance including the Davis-Bacon Act.
- (j) Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees which receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.
- (k) No wastewater bypassing will occur during construction unless a schedule has been approved by the Kentucky Division of Water.
- (l) Change orders to the construction contract (if required) must be negotiated pursuant to DOW/KIA Procurement Guidance for Construction and Equipment Contracts.



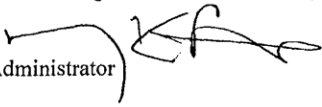
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 24 2014

OFFICE OF WATER

MEMORANDUM

SUBJECT: Application of Buy American Requirements to Fiscal Year 2014 Clean Water State Revolving Fund and Drinking Water State Revolving Fund Assistance Agreements

FROM: Nancy K. Stoner 
Acting Assistant Administrator

TO: Water Management Division Directors
Regions I- X

On January 17, 2014, H.R. 3547, "Consolidated Appropriations Act, 2014," (Appropriations Act) was enacted. This law provides appropriations for both the Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF) for Fiscal Year 2014, while adding a Buy American requirement to these already existing programs. Application of this new requirement is the focus of this memorandum.

H.R. 3547 includes the following language in Division G, Title IV, under the heading, "Use of American Iron and Steel,"

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the "Administrator") finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

In order to comply with this provision, States must include in all assistance agreements, whether in the form of a loan, bond purchase, grant, or any other vehicle to provide financing for a project, executed on or after January 17, 2014 (date of enactment of H.R. 3547), and prior to October 1, 2014, for the construction, alteration, maintenance, or repair of treatment works under the CWSRF or for construction, alteration, maintenance, or repair of a public water system under the DWSRF, a provision requiring the application of Buy American requirements for the entirety of the construction activities financed by the assistance agreement through completion of construction, no matter when construction commences. The one exception to this requirement is if a project has approved engineering plans and specifications, by a State agency, prior to enactment of the Appropriations Act.

Application of the Buy American requirements extend not only to assistance agreements funded with Fiscal Year 2014 appropriations, but to all assistance agreements executed on or after January 17, 2014 and prior to October 1, 2014, whether the source of the funding is prior year's appropriations, state match, bond proceeds, interest earnings, principal repayments, or any other source of funding so long as the project is financed by an SRF assistance agreement. If a project began construction prior to January 17, 2014, but is financed or refinanced through an assistance agreement executed on or after January 17, 2014 and prior to October 1, 2014, Buy American requirements will apply to all construction that occurs on or after January 17, 2014, through completion of construction, unless, as is likely, engineering plans and specifications were approved by a State agency prior to enactment of the Appropriations Act.

Notably, there is no application of the Buy American requirements where such a refinancing occurs for a project that has completed construction prior to January 17, 2014. This provision does not apply to any project for which an assistance agreement was executed prior to January 17, 2014, no matter when construction occurs.

Further information will be provided in the form of guidance as soon as possible.

We understand the complexity of this provision and the challenges involved in its application. If you have any questions, please contact Peter Grevatt or Andrew Sawyers, or have your staff contact Jordan Dorfman, Attorney-Advisor, State Revolving Fund Branch, Municipal Support Division, at dorfman.jordan@epa.gov or (202) 564-0614 and Kiri Anderer, Environmental Engineer, Infrastructure Branch, Drinking Water Protection Division, at anderer.kirsten@epa.gov or (202) 564-3134

KRS Chapter 45A
Kentucky Model Procurement Code

45A.075 Methods of awarding state contracts.

Except as otherwise authorized by law, all state contracts shall be awarded by:

- (1) Competitive sealed bidding, pursuant to KRS 45A.080; or
- (2) Competitive negotiation, pursuant to KRS 45A.085 and 45A.090 or 45A.180; or
- (3) Noncompetitive negotiation, pursuant to KRS 45A.095; or
- (4) Small purchase procedures, pursuant to KRS 45A.100.

Effective: June 24, 2003

History: Amended 2003 Ky. Acts ch. 98, sec. 4, effective June 24, 2003. -- Created 1978 Ky. Acts ch. 110, sec. 16, effective January 1, 1979.

45A.080 Competitive sealed bidding.

(1) Contracts exceeding the amount provided by KRS 45A.100 shall be awarded by competitive sealed bidding, which may include the use of a reverse auction, unless it is determined in writing that this method is not practicable. Factors to be considered in determining whether competitive sealed bidding is not practicable shall include:

- (a) Whether specifications can be prepared that permit award on the basis of best value; and
- (b) The available sources, the time and place of performance, and other relevant circumstances as are appropriate for the use of competitive sealed bidding.

(2) The invitation for bids shall state that awards shall be made on the basis of best value. In any contract which is awarded under an invitation to bid which requires delivery by a specified date and imposes a penalty for late delivery, if the delivery is late, the contractor shall be given the opportunity to present evidence that the cause of the delay was beyond his control. If it is the opinion of the purchasing officer that there is sufficient justification for delayed delivery, the purchasing officer may adjust or waive any penalty that is provided for in the contract.

(3) Adequate public notice of the invitation for bids and any reverse auction shall be given a sufficient time prior to the date set forth for the opening of bids or beginning of the reverse auction. The notice may include posting on the Internet or publication in a newspaper or newspapers of general circulation in the state as determined by the secretary of the Finance and Administration Cabinet not less than seven (7) days before the date set for the opening of the bids and any reverse auction. The provisions of this subsection shall also apply to price contracts and purchase contracts of state institutions of higher education.

(4) Bids shall be opened publicly or entered through a reverse auction at the time and place designated in the invitation for bids. At the time the bids are opened, or the reverse auction has ended, the purchasing agency shall announce the agency's engineer's estimate, if applicable, and make it a part of the agency records pertaining to the letting of any contract for which bids were received. Each written or reverse auction bid, together with the name of the bidder and the agency's engineer's estimate, shall be recorded and be open to public inspection. Electronic bid opening and posting of the required information for public viewing shall satisfy the requirements of this subsection.

(5) The contract shall be awarded by written notice to the responsive and responsible bidder whose bid offers the best value.

(6) Correction or withdrawal of written or reverse auction bids shall be allowed only to the extent permitted by regulations issued by the secretary.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch. 63, sec. 3, effective July 15, 2010. -- Amended 2000 Ky. Acts ch. 509, sec. 1, effective July 14, 2000. -- Amended 1998 Ky. Acts ch. 120, sec. 10, effective July 15, 1998. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 4, sec. 27, effective May 30, 1997. -- Amended 1996 Ky. Acts ch. 60, sec. 2, effective July 15, 1996. -- Amended 1994 Ky. Acts ch. 278, sec. 1, effective July 15, 1994. -- Amended 1982 Ky. Acts ch. 282, sec. 1, effective July 15, 1982. -- Amended 1979 (1st Extra. Sess.) Ky. Acts ch. 9, sec. 1, effective February 10, 1979. -- Created 1978 Ky. Acts ch. 110, sec. 17, effective January 1, 1979.

45A.085 Competitive negotiation.

(1) When, under administrative regulations promulgated by the secretary or under KRS 45A.180, the purchasing officer determines in writing that the use of competitive sealed bidding is not practicable, and except as provided in KRS 45A.095 and 45A.100, a contract may be awarded by competitive negotiation, which may include the use of a reverse auction.

(2) Adequate public notice of the request for proposals and any reverse auction shall be given in the same manner and circumstances as provided in KRS 45A.080(3).

(3) Contracts other than contracts for projects utilizing an alternative project delivery method under KRS 45A.180 may be competitively negotiated when it is determined in writing by the purchasing officer that the bids received by competitive sealed bidding either are unreasonable as to all or part of the requirements, or were not independently reached in open competition, and for which each competitive bidder has been notified of the intention to negotiate and is given reasonable opportunity to negotiate.

(4) Contracts for projects utilizing an alternative project delivery method shall be processed in accordance with KRS 45A.180.

(5) The request for proposals shall indicate the relative importance of price and other evaluation factors, and any reverse auction procedures.

(6) Award shall be made to the responsible and responsive offeror whose proposal is determined in writing to be the most advantageous to the Commonwealth, taking into consideration price and the evaluation factors set forth in the request for proposals and the reciprocal preference for resident bidders required under KRS 45A.494.

(7) Written or oral discussions shall be conducted with all responsible offerors who submit proposals determined in writing to be reasonably susceptible of being selected for award. Discussions shall not disclose any information derived from proposals submitted by competing offerors. Discussions need not be conducted:

(a) With respect to prices, where the prices are fixed by law, reverse auction, or administrative regulation, except that consideration shall be given to competitive terms and conditions;

(b) Where time of delivery or performance will not permit discussions; or

(c) Where it can be clearly demonstrated and documented from the existence of adequate competition or prior experience with the particular supply, service, or construction item, that acceptance of an initial offer without discussion would result in fair and reasonable best value procurement, and the request for proposals notifies all offerors of the possibility that award may be made on the basis of the initial offers.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch. 63, sec. 4, effective July 15, 2010; and ch. 162, sec. 8, effective July 15, 2010. -- Amended 2003 Ky. Acts ch. 98, sec. 5, effective June 24, 2003. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 4, sec. 28, effective May 30, 1997. -- Amended 1979 (1st Extra. Sess.) Ky. Acts ch. 9, sec. 2, effective February 10, 1979. -- Created 1978 Ky. Acts ch. 110, sec. 18, effective January 1, 1979.

45A.090 Negotiation after competitive sealed bidding when all bids exceed available funds.

(1) In the event that all bids submitted pursuant to competitive sealed bidding under KRS 45A.080 result in bid prices in excess of the funds available for the purchase, and the chief purchasing officer determines in writing:

- (a) That there are no additional funds available from any source so as to permit an award to the responsive and responsible bidder whose bid offers the best value; and
- (b) The best interest of the state will not permit the delay attendant to a resolicitation under revised specifications, or for revised quantities, under competitive sealed bidding as provided in KRS 45A.080, then a negotiated award may be made as set forth in subsections (2) or (3) of this section.

(2) Where there is more than one (1) bidder, competitive negotiations pursuant to KRS 45A.085(3) shall be conducted with the three (3) (two (2) if there are only two (2)) bidders determined in writing to be the most responsive and responsible bidders, based on criteria contained in the bid invitation and the reciprocal preference for resident bidders under KRS 45A.494. Such competitive negotiations shall be conducted under the following restrictions:

- (a) If discussions pertaining to the revision of the specifications or quantities are held with any potential offeror, all other potential offerors shall be afforded an opportunity to take part in such discussions; and
- (b) A request for proposals, based upon revised specifications or quantities, shall be issued as promptly as possible, shall provide for an expeditious response to the revised requirements, and shall be awarded upon the basis of best value.

(3) Where, after competitive sealed bidding, it is determined in writing that there is only one (1) responsive and responsible bidder, a noncompetitive negotiated award may be made with such bidder in accordance with KRS 45A.095.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch. 162, sec. 9, effective July 15, 2010. -- Amended 2003 Ky. Acts ch. 98, sec. 6, effective June 24, 2003. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 4, sec. 29, effective May 30, 1997. -- Created 1978 Ky. Acts ch. 110, sec. 19, effective January 1, 1979.

45A.095 Noncompetitive negotiation.

(1) A contract may be made by noncompetitive negotiation only for sole source purchases, or when competition is not feasible, as determined by the purchasing officer in writing prior to award, under administrative regulations promulgated by the secretary of the Finance and Administration Cabinet or the governing boards of universities operating under KRS Chapter 164A, or when emergency conditions exist. Sole source is a situation in which there is only one (1) known capable supplier of a commodity or service, occasioned by the unique nature of the requirement, the supplier, or market conditions. Insofar as it is practical, no less than three (3) suppliers shall be solicited to submit written or oral quotations whenever it is determined that competitive sealed bidding is not feasible. Award shall be made to the supplier offering the best value. The names of the suppliers submitting quotations and the date and amount of each quotation shall be placed in the procurement file and maintained as a public record. Competitive bids may not be required:

- (a) For contractual services where no competition exists, such as telephone service, electrical energy, and other public utility services;
- (b) Where rates are fixed by law or ordinance;
- (c) For library books;
- (d) For commercial items that are purchased for resale;
- (e) For interests in real property;

- (f) For visiting speakers, professors, expert witnesses, and performing artists;
 - (g) For personal service contracts executed pursuant to KRS 45A.690 to 45A.725; and
 - (h) For agricultural products in accordance with KRS 45A.645.
- (2) The chief procurement officer, the head of a using agency, or a person authorized in writing as the designee of either officer may make or authorize others to make emergency procurements when an emergency condition exists.
- (3) An emergency condition is a situation which creates a threat or impending threat to public health, welfare, or safety such as may arise by reason of fires, floods, tornadoes, other natural or man-caused disasters, epidemics, riots, enemy attack, sabotage, explosion, power failure, energy shortages, transportation emergencies, equipment failures, state or federal legislative mandates, or similar events. The existence of the emergency condition creates an immediate and serious need for services, construction, or items of tangible personal property that cannot be met through normal procurement methods and the lack of which would seriously threaten the functioning of government, the preservation or protection of property, or the health or safety of any person.
- (4) The Finance and Administration Cabinet may negotiate directly for the purchase of contractual services, supplies, materials, or equipment in bona fide emergencies regardless of estimated costs. The existence of the emergency shall be fully explained, in writing, by the head of the agency for which the purchase is to be made. The explanation shall be approved by the secretary of the Finance and Administration Cabinet and shall include the name of the vendor receiving the contract along with any other price quotations and a written determination for selection of the vendor receiving the contract. This information shall be filed with the record of all such purchases and made available to the public. Where practical, standard specifications shall be followed in making emergency purchases. In any event, every effort should be made to effect a competitively established price for purchases made by the state.

Effective: July 15, 2002

History: Amended 2002 Ky. Acts ch. 344, sec. 9, effective July 15, 2002. -- Amended 1997 (1st Extra. Sess.) Ky. Acts ch. 4, sec. 30, effective May 30, 1997. -- Amended 1990 Ky. Acts ch. 496, sec. 4, effective July 13, 1990. -- Created 1978 Ky. Acts ch. 110, sec. 20, effective January 1, 1979

45A.100 Small purchases by state governmental bodies.

- (1) Procurements may be made in accordance with small purchase administrative regulations promulgated by the secretary of the Finance and Administration Cabinet, pursuant to KRS Chapter 13A, as follows:
- (a) Up to ten thousand dollars (\$10,000) per project for construction and one thousand dollars (\$1,000) for purchases by any state governmental body, except for those state administrative bodies specified in paragraph (b) of this subsection; and
 - (b) Up to forty thousand dollars (\$40,000) per project for construction or purchases by the Finance and Administration Cabinet, state institutions of higher education, and the legislative branch of government.
- (2) Procurement requirements shall not be artificially divided so as to constitute a small purchase under this section. Reverse auctions may be used for small purchase procurements. At least every two (2) years, the secretary shall review the prevailing costs of labor and materials and may make recommendations to the next regular session of the General Assembly for the revision of the then current maximum small purchase amount as justified by intervening changes in the cost of labor and materials.
- (3) The secretary of the Finance and Administration Cabinet may grant to any state agency with a justifiable need a delegation of small purchasing authority which exceeds the agency's small purchase limit provided in subsection (1) of this section. Delegations of small purchasing authority shall be granted or revoked by the secretary of the Finance and Administration Cabinet,

in accordance with administrative regulations promulgated by the cabinet pursuant to KRS Chapter 13A. These administrative regulations shall establish, at a minimum, the criteria for granting and revoking delegations of small purchasing authority, including the requesting agency's past compliance with purchasing regulations, the level of training of the agency's purchasing staff, and the extent to which the agency utilizes the Kentucky Automated Purchasing System. The administrative regulations may permit the secretary of the Finance and Administration Cabinet to delegate small purchase procurements up to the maximum amount specified in subsection (1)(b) of this section.

Effective: July 15, 2010

History: Amended 2010 Ky. Acts ch. 63, sec. 5, effective July 15, 2010. -- Amended 2002 Ky. Acts ch. 320, sec. 2, effective July 15, 2002. -- Amended 2000 Ky. Acts ch. 225, sec. 1, effective July 14, 2000. -- Amended 1996 Ky. Acts ch. 60, sec. 1, effective July 15, 1996. -- Amended 1994 Ky. Acts ch. 323, sec. 1, effective July 15, 1994. -- Amended 1990 Ky. Acts ch. 496, sec. 5, effective July 13, 1990. -- Amended 1986 Ky. Acts ch. 384, sec. 1, effective July 15, 1986. -- Amended 1984 Ky. Acts ch. 384, sec. 1, effective July 13, 1984. -- Amended 1982 Ky. Acts ch. 282, sec. 2, effective July 15, 1982. -- Amended 1980 Ky. Acts ch. 242, sec. 1, effective July 15, 1980; and ch. 250, sec. 19, effective April 9, 1980. -- Created 1978 Ky. Acts ch. 110, sec. 21, effective January 1, 1979.

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

The following excerpts are from 45 FR 65984 (October 3, 1980):

The minority and female goals apply to Federal and federally assisted construction contractors and subcontractors which have covered contracts. The goals are expressed as a percentage of the total hours worked by such a covered or subcontractor's entire onsite construction workforce, which is working on any construction site within a relevant area. The goal applies to each construction craft and trade in the contractor's entire workforce in the relevant area including those employees working on private non-federally involved projects.

Until further notice, the following goals for minority utilization in each construction craft and trade shall be included in all Federal or federally assisted construction contracts and subcontracts in excess of \$10,000 to be performed in the respective geographic area. The goals are applicable to each nonexempt contractor's total onsite construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or non-federally related project, contract or subcontract.

Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply as follows:

Goals for female participation in each trade.....6.9%
Goals for minority participation in each trade.....Insert goals for each year
(see Attachment Number 6)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted) performed in the covered area.

The following excerpts are from 45 FR 65977 (October 3, 1980):

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the covered area is (insert description of the geographical areas where the contract is to be performed giving the state, country, and city, if any).

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)**

EEO Specifications

Following is the standard language, which must be incorporated into all solicitations for offers and bids on all Federal and Federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in designated geographical areas:

1. As used in these specifications:
 - (a) Covered Area means the geographical area described in the solicitation from which this contract resulted.
 - (b) Director means Director, Office of Federal Contract Compliance Program, United States Department of Labor, or any person to whom the Director delegates authority;
 - (c) Employer identification number means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - (d) Minority includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take a good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7-a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative actions steps at least as extensively as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligation.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7-b above.

- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, lay-off, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative actions obligations (7 a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7 a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example: even though the Contractor has achieved its goal for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables for affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local

or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

EEO Goals for Economic Areas in Region 4

Source: Appendix B-80 in 45 FR 65984 (October 3, 1980)

Kentucky:

053 Knoxville, TN	
SMSA Counties:	
3840 Knoxville, TN	6.6
TN Anderson; TN Blount; TN Knox; TN Union.	
Non-SMSA Counties	4.5
KY Bell; KY Harlan; KY Knox; KY Laurel; KY McCreary; KY Wayne; KY Whitley; TN	
Campbell; TN Claiborne; TN Cocke; TN Cumberland; TN Fentress; TN Grainger, TN Hamblen;	
TN Jefferson; TN Loudon; TN Morgan; TN Roane; TN Scott;	
TN Sevier.	
054 Nashville, TN:	
SMSA Counties:	
1660 Clarksville - Hopkinsville, TN - KY	18.2
KY Christian; TN Montgomery.	
5360 Nashville - Davidson, TN	15.8
TN Cheatham, TN Davidson; TN Dickson; TN Robertson; TN Rutherford; TN Sumner; TN	
Williamson; TN Wilson.	
Non-SMSA Counties	12.0
KY Allen; KY Barren; KY Butler; KY Clinton; KY Cumberland; KY Edmonson; KY Logan; KY	
Metcalfe; KY Monroe; KY Simpson; KY Todd; KY Trigg; KY Warren; TN Bedford; TN Cannon;	
TN Clay; TN Coffee; TN DeKalb; TN Franklin; TN Giles; TN Hickman; TN Houston; TN	
Humphreys; TN Jackson; TN Lawrence; TN Lewis; TN Macon; TN Marshall; TN Maury; TN	
Moore; TN Overton; TN Perry; TN Pickett; TN Putnam; TN Smith; TN Stewart; TN Trousdale;	
TN Van Buren; TN Warren; TN Wayne; TN White.	
056 Paducah, KY:	
Non-SMSA Counties	5.2
IL Hardin; IL Massac; IL Pope; KY Ballard; KY Caldwell; KY Calloway. KY Carlisle; KY	
Crittenden; KY Fulton; KY Graves; KY Hickman; KY Livingston; KY Lyon. KY McCracken; KY	
Marshall.	
057 Louisville, KY:	
SMSA Counties:	
4520 Louisville, KY-IN	11.2
IN Clark; IN Floyd; KY Bullitt; KY Jefferson; KY Oldham.	
Non-SMSA Counties	9.6
IN Crawford; IN Harrison; IN Jefferson; IN Orange; IN Scott; IN Washington; KY Breckinridge;	
KY Grayson; KY Hardin; KY Hart; KY Henry; KY Larue; KY Marion;	
KY Meade; KY Nelson; KY Shelby; KY Spencer; KY Trimble; KY Washington.	
058 Lexington, KY	
SMSA Counties	
4280 Lexington-Fayette, KY	10.8
KY Bourbon; KY Clark; KY Fayette; KY Jessamine; KY Scott; KY Woodford.	
Non-SMSA Counties	7.0
KY Adair KY Anderson; KY Bath; KY Boyle; KY Breathitt; KY Casey; KY Clay; KY Estill; KY	
Franklin; KY Garrard; KY Green; KY Harrison; KY Jackson; KY Knott; KY Lee; KY Leslie; KY	
Letcher; KY Lincoln; KY Madison; KY Magoffin; KY Menifee; KY Mercer; KY Montgomery;	
KY Morgan. KY Nicholas; KY Owsley; KY Perry; KY Powell; KY Pulaski; KY Rockcastle; KY	
Russell; KY Taylor; KY Wolfe.	
059 Huntington, WV:	
SMSA Counties:	
3400 Huntington – Ashland, WV-KY-OH	2.9
KY Boyd; KY Greenup; OH Lawrence; WV Cabell; WV Wayne.	
Non-SMSA Counties	2.5
KY Carter; KY Elliott; KY Floyd; KY Johnson; KY Lawrence; KY Martin; KY Pike; KY Rowan;	
OH Gallia; WV Lincoln; WV Logan; WV Mason; WV Mingo.	
067 Cincinnati, OH:	
SMSA Counties:	
1640 Cincinnati, OH-KY-IN	11.0
IN Dearborn; KY Boone; KY Campbell; KY Kenton; OH Clermont;	
OH Hamilton; OH Warren.	

3200 Hamilton-Middletown, OH	5.0
OH Butler.	
Non-SMSA Counties	9.2
IN Franklin; IN Ohio; IN Ripley; IN Switzerland; KY Bracken; KY Carroll; KY Fleming; KY Gallatin; KY Grant; KY Lewis; KY Mason; KY Owen; KY Pendleton; KY Robertson; OH Adams; OH Brown; OH Clinton; OH Highland.	
080 Evansville, IN:	
SMSA Counties	
2440 Evansville, IN-KY	4.8
IN Gibson; IN Posey; IN Vanderburgh; IN Warrick; KY Henderson.	
5990 Owensboro, KY	4.7
KY Daviess.	
Non-SMSA Counties	3.5
IL Edwards; IL Gallatin; IL Hamilton; IL Lawrence; IL Saline; IL Wabash; IL White; IN Dubois; IN Knox; IN Perry; IN Pike; IN Spencer; KY Hancock; KY Hopkins; KY McLean; KY Muhlenberg; KY Ohio; KY Union; KY Webster.	

**CHECK LIST OF EEO DOCUMENTATION FOR BIDDERS
ON GRANT/LOAN CONSTRUCTION
(Required by Executive Order 11246 as amended)**

The low, responsive responsible bidder must forward the following items, in duplicate, to the owner no later than ten (10) days after bid opening. The owner shall have one (1) copy available for inspection by the Office of Federal Contracts Compliance within 14 days after the bid opening. The web site for the OFCC is http://www.dol.gov/esa/ofcp_org.htm.

1. Project Number. Project Location. Type of Construction.
2. Proof of registration with the Joint Reporting Commission. (See Attachment Number 8.)
3. Copy of Affirmative Action Plan of contractor. Indicate company official responsible for EEO.
4. List of current construction contracts, with dollar amount. List contracting Federal Agency, if applicable.
5. Statistics concerning company percent workforce, permanent and temporary, by sex, race, trade, handicapped, and age. 40 CFR Part 7.
6. List of employment sources for project in question. If union sources are utilized, indicate percentage of minority membership within the union crafts.
7. Anticipated employment needs for this project, by sex, race and trade, with estimate of minority participation in specific trades.
8. List of subcontractors (name, address and telephone) with dollar amount and duration of subcontract. Subcontractor contracts over \$10,000 must submit items 1- 8. The following information must be provided for all supplier contracts regardless of contract size: name of company, contact person, address, telephone number, dollar value of the contract, and a list of the materials to be supplied to the prime contractor.
9. List of any subcontract work yet to be committed with estimate of dollar amount and duration of contract.
10. Contract Price. Duration of prime contract.
11. DBE Documents - See special instructions regarding use of Minority, and Women Owned, and Small Businesses.

Employer Information Report EEO-1

Under the direction of the US Equal Employment Opportunity Commission, the Joint Reporting Committee is responsible for the full-length, multi-phase processing of employment statistics collected on the Employer Information Report EEO-1. This report, also termed Standard Form 100, details the sex and race/ethnic composition of an employer's work force by job category.

The Employer Information EEO-1 survey is conducted annually under the authority of Public Law 88-352, Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972. All employers with 15 or more employees are covered by Public Law 88-352 and are required to keep employment records as specified by Commission regulations. Based on the number of employees and federal contract activities, certain large employers are required to file an EEO-1 Report on an annual basis.

The EEO-1 Report must be filed by:

(A) All private employers who are: (1) subject to Title VII of the Civil Rights Act of 1964 (as amended by the Equal Employment Opportunity Act of 1972) with 100 or more employees EXCLUDING State and local governments, primary and secondary school systems, institutions of higher education, Indian tribes and tax-exempt private memberships clubs other than labor organizations; OR (2) subject to Title VII who have fewer than 100 employees if the company is owned or affiliated with another company, or there is centralized ownership, control or management (such as central control of personnel policies and labor relations) so that the group legally constitutes a single enterprise and the entire enterprise employs a total of 100 or more employees.

(B) All federal contractors (private employers), who: (1) are not exempt as provided for by 41 CFR 60-1.5, (2) have 50 or more employees, and (a) are prime contractors or first-tier subcontractors, and have a contract, subcontract, or purchase order amounting to \$50,000 or more; or (b) serve as depository of Government funds in any amount, or (c) is a financial institution which is an issuing or paying agent for U.S. Savings Bonds and Notes.

Only those establishments located in the District of Columbia and the 50 states are required to submit the EEO-1 Report. No Reports should be filed for establishments in Puerto Rico, the Virgin Islands or other American Protectorates.

When filing for the EEO-1 Report for the first time, go to the web site at: <http://www.mimdms.com/jrc.html> and select "Filing for the first time" from the box labeled INFORMATION. File out the electronic questionnaire to enter your company into Joint Reporting Committee (JRC) system. Once you have completed the registration process, you will be contacted on how to proceed with the EEO-1 Report. If you have previously registered with the JRC, follow their instructions to update your information.

Labor Standards Provisions for Federally Assisted Construction

Labor standards provisions applicable to contracts covering federally financed and assisted construction (29 CFR 5.5, Contract Provisions and Related Matters) that apply to EPA Special Appropriations Projects grants are:

(a)(4)(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(a)(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

(a)(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5 (a) (1) through (10) and such other clauses as the U.S. Environmental Protection Agency may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(a)(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(b) Contractor Work Hours and Safety Standards Act. The Administrator, EPA shall cause or require the contracting officer to insert the following clauses set forth in paragraph (b)(1),(2),(3), and (4) of this section in full in any contract subject to the overtime provisions of the OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54). These clauses shall be inserted in addition to the clauses required by *Section 5.5(a) of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any work week in which he or she is employed on such work to in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b) (1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for unliquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The U.S. Environmental Protection Agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally- assisted contract subject to the OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54), which is held by the same prime contractor, such

liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) (2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54) and not to any of the other statutes cited in section 5.1, the Administrator of EPA shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly worked, deductions made, and actual wages paid. Further, the Administrator of EPA shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the U.S. Environmental Protection Agency and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job. (Approved by the Office of Management and Budget under OMB control numbers 1215-0140 and 1215-0017.)

CERTIFICATIONS

Debarred Firms

All prime Construction Contractors shall certify that Subcontractors have not and will not be awarded to any firm that is currently on the EPA Master List of Debarred, Suspended and Voluntarily Excluded Persons in accordance with the provisions of 40 CFR 32.500(c). Debarment action is taken against a firm for noncompliance with Federal Law.

All bidders shall complete the attached certification (Attachment Number 10) and submit to the owner with the bid proposal.

Anti-lobbying Certification

All prime Construction Contractors must certify (Attachment Number 11) that no appropriated funds were or will be expended for the purpose of lobbying the Executive or Legislative Branches of the Federal Government or Federal Agency concerning this contract (contract in excess of \$100,000). If the Contractor has made or agreed to make payment to influence any member of Congress in regard to award of this contract, a Disclosure Form must be completed and submitted to the owner with the bid proposal.

All prime Contractors must require all Subcontractors to submit the certification, which must also be submitted to the owner.

**CERTIFICATION REGARDING DEBARMENT,
SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

Date

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

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 of not less than \$10,000 and not more than \$100,000 for each such failure.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

Date

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

EPA DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

EPA's Disadvantaged Business Enterprise Program rule applies to contract procurement actions funded in part by EPA assistance agreements awarded after May 27, 2008. The rule is found at Federal regulation Title 40, Part 33. Specific responsibilities are highlighted below.

Grant recipient responsibilities:

- Conduct an Availability Analysis and negotiate fair share objectives with EPA (§33.411), or adopt the fair share objectives of the oversight state agency revolving loan fund for comparable infrastructure. (§33.405(b)(3)).
- Include the Appendix A term and condition in each contract with a primary contractor (§3.106). The term and condition is included in the EPA Region 4 contract specifications insert *FEDERAL REQUIREMENTS AND CONTRACT PROVISIONS FOR SPECIAL APPROPRIATION ACT PROJECTS US ENVIRONMENTAL PROTECTION AGENCY, Region III, June 2008*.
- Employ the six Good Faith Efforts during prime contractor procurement (§33.301).
- Require prime contractor to comply with the following prime contractor requirements of Title 40 Part 33:
 - To employ the six Good Faith Efforts steps in paragraphs (a) through (e) of §33.301 if the prime contractor awards subcontracts (§33.301(f)).
 - To provide EPA form 6100-2 – *DBE Subcontractor Participation Form* to all DBE subcontractors (§33.302(e)).
 - To submit EPA forms 6100-3 – *DBE Program Subcontractor Performance Form* and 6100-4 – *DBE Program Subcontractor Utilization Form* with bid package or proposal. (§33.302 (f) and (g)).
 - To pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient (§33.302(a)).
 - To notify recipient in writing by its prime contractor prior to any termination of a DBE subcontractor for convenience by the prime contractor (§33.302(b)).
 - To employ the six good faith efforts described in §33.301 if soliciting a replacement subcontractor after a DBE subcontractor fails to complete work under the subcontract for any reason. (§33.302(c)).
 - To employ the six good faith efforts described in §33.301 even if the prime contractor has achieved its fair share objectives under subpart D of Part 33. (§33.302(d)).

- Semiannually complete and submit to Charles Hayes, EPA Region 4 DBE Coordinator EPA form 5700-52A summarizing DBE participation achieved during the previous six months (§33.502).
- Maintain records documenting its compliance with the requirements of Title 40 Part 33, including documentation of its, and its prime contractors', good faith efforts (§33.501(a)).

Prime Contractor Responsibilities:

- Employ the six Good Faith Efforts steps in paragraphs (a) through (e) of §33.301 if the prime contractor awards subcontracts (§33.301(f)).
- Provide EPA form number 6100-2 – *DBE Program Subcontractor Participation Form* and form number 6100-3 – *DBE Program Subcontractor Performance Form* to each DBE subcontractor prior to opening of the contractor's bid or proposal (§33.302(e) and (f)).
- Complete EPA form number 6100-4 – *DBE Program Subcontractor Utilization Form* (§33.302(g)).
- Submit to recipient with its bid package or proposal the completed EPA form number 6100-4, plus an EPA form number 6100-3 for each DBE subcontractor used in the contractor's bid or proposal (§33.302(f) and (g)).
- Pay subcontractors for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient (§33.302(a)).
- Notify the recipient in writing prior to prime contractor termination of a DBE subcontractor for convenience (§33.302(b)).
- Employ the six good faith efforts described in §33.301 if soliciting a replacement subcontractor after a DBE subcontractor fails to complete work under the subcontract for any reason. (§33.302(c)).
- Employ the six good faith efforts described in §33.301 even if the prime contractor has achieved its fair share objectives under subpart D of Part 33. (§33.302(d)).
- Semiannually inform recipient of DBE participation achieved (§33.502).
- Maintain records documenting its compliance with the requirements of Title 40 Part 33, including documentation of its, and its prime contractors', good faith efforts (§33.501(a)).

Subcontractor Responsibilities:

- May submit EPA form 6100-2 – *DBE Subcontractor Participation Form* to Charles Hayes, EPA Region 4 DBE Coordinator (§33.302(e)).
- Must complete EPA form 6100-3 – *DBE Program Subcontractor Performance Form*, and submit it to the prime contractor soliciting services from the subcontractor prior to the opening of bids for the prime contract.

SPAP Requirements:

Form	Requirement	Provided By:	Completed By:	Submitted To:
EPA Form 6100-2	Grant Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	EPA Region 4 DBE Coordinator Charles Hayes
EPA Form 6100-3	Grant Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	Grant Recipients as part of a bid or proposal package
EPA Form 6100-4	Grant Recipients required to have prime contractors complete the form	Grant Recipients	Prime Contractors	Grant Recipients as part of a bid or proposal package

SRF Requirements:

Form	Requirement	Provided By:	Completed By:	Submitted To:
EPA Form 6100-2	Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	DOW Project Administrator
EPA Form 6100-3	Recipients required to have prime contractors provide form to Subcontractors	Prime Contractors	DBE Subcontractors	Dow Project Administrator w/ATA Package
EPA Form 6100-4	Recipients required to have prime contractors complete the form	Recipients	Prime Contractors	DOW Project Administrator w/ATA Package
Pay Request DBE Form	Recipients required to have prime contractors complete the form	Recipients	Prime Contractors	DOW Project Administrator w/EACH PAYMENT

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION POLICY

PROJECT NAME: _____

BID DATE: _____

1. Name, address and telephone number of contact person on all DBE matters:

Prime Contractor's Name: _____

Contact Person: _____

Address: _____

Phone: _____

Cell Phone: _____

Email: _____

Total Contract Amount: _____

2. Total dollar amount/percent of contract of MBE participation: _____

3. Total dollar amount/percent of contract of WBE participation: _____

4. Are certifications* for each MBE/WBE/DBE subcontractor enclosed; if no, please explain: Yes No

5. Are MBE/WBE/DBE subcontracts or letters of intent signed by both parties enclosed; if no, please explain: Yes No

6. List of MBE Subcontractors:

Name: _____

Contact Person: _____

Address: _____

Phone: _____

Cell Phone: _____

Email: _____

Type of Contract: _____

Work to be Done: _____

Amount: _____

7. List of WBE Subcontractors:

Name: _____

Contact Person: _____

Address: _____

Phone: _____

Cell Phone: _____

Email: _____

Type of Contract: _____

Work to be Done: _____

Amount: _____

Attach Additional Sheets, If Necessary

*Self-certification: Self certification of MBE/WBE/DBE firms will NOT be accepted as a valid form of certification of MBE/WBE/DBE status.

8. Information and documentation concerning efforts taken to comply with EPA's "six good faith efforts"

(i). Ensure DBE construction firms or material suppliers are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities; including placing DBEs on solicitation lists and soliciting them whenever they are potential sources. A good source for a list of DBEs is the Kentucky Transportation's website: <http://transportation.ky.gov/Civil-Rights-and-Small-Business-Development/Pages/Certified-DBE-Directory.aspx>.

The prime contractor certifies that a bidders list (see example sheet below) of qualified vendors, including DBEs, was developed for current and future solicitations and that the list will be maintained. *Submit a copy of the list as documentation.*

(ii). Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process; including, whenever possible, posting solicitation for bids or proposals for a sufficient amount of time as to receive a competitive bid or proposal pool.

The prime contractor certifies that every opportunity was provided to a number of DBEs to encourage their participation in the competitive process and that an adequate amount of time was provided for response.

a. List each DBE construction firm or material supplier to which a solicitation was attempted. *Submit copies of letters, emails, faxes, telecommunication logs, certified mail receipts, returned envelopes, certified mail return receipts, etc. as documentation.*

Company name and phone number: _____

Area of work expertise: _____

Date of any follow-ups and person spoke to: _____

b. Advertisements, if applicable: List each publication in which an announcement or notification was placed. *Submit a tear sheet of each announcement from each publication as documentation.*

Name of publication: _____

Date(s) of advertisement: _____

Specific subcontract areas announced: _____

c. Other, if applicable: List each notification method in which an announcement or outreach was used; list serve, public meeting, etc. *Submit applicable information to document effort.*

Method of notification: _____

Date(s) of notification: _____

(iii). Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs; including dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.

The prime contractor certifies that the project was broken into its basic elements (i.e., dirt hauling, landscaping, painting, pipe installation, material supplies, etc.) and that a determination was made whether it's economically feasible to bid the elements separately and that the analysis of this effort was documented with a short memo to the project file.

- (iv). Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women’s business enterprises.
- The prime contractor certifies that they established delivery schedules which would allow DBEs to participate in the projects.
- (v). Use the services and assistance of the Small Business Administration (SBA) and the Minority Business Development Agency (MBDA) of the U.S. Department of Commerce. The easiest way to utilize the services of SBA and MBDA is to visit their websites: www.sba.gov and www.mbda.gov and use the electronic tools available there or you may send the nearest SBA and MBDA office a certified letter that generally describes the solicitation, the dates it will be open, the types of vendors you are seeking and applicable Standard Industrial Classification (SIC) or North American Industry Classification System (NAIC) codes if known. You may also use the services and assistance of the Procurement Technical Assistance Center (PTAC). The easiest way to utilize the services of PTAC is to send an email: ptac@ksbdc.org and generally describe the solicitation, the dates it will be open, the types of vendors you are seeking and applicable SIC or NAIC codes if known.
- The prime contractor certifies that the assistance of the SBA, MBDA, and/or PTAC was utilized. *Submit pages printed off the SBA and MBDA websites which evidence efforts to register a solicitation on those sites or submit copies of the letter sent and certified mail receipt as documentation; submit copies of emails with PTAC as documentation.*
- (vi). If a subcontractor awards any subcontracts, require the subcontractor to take the steps in numbers (i) through (v) above.
- The prime contractor certifies that subcontractors used for this project will be required to follow the steps of the “six good faith efforts” as listed above.

9. Signature and date:

To the best of my knowledge and belief, all “six good faith efforts” have been met and the information contained in this document is true and correct; the document has been duly authorized by the legal representative.

Signature

Print name and title

Date

BIDDER'S LIST FORM

OWNER: _____

LOAN NO: _____

PROJECT TITLE: _____

BID DATE: _____

Instructions:

1. This list must include all firms that were solicited for participation, bid on, or quoted for a prime contract or subcontracts under EPA assisted projects, included both DBE's and non DBE's.
2. SRF loan participants must keep the Bidder's List until the project period for the identified loan has ended and no funds are remaining.
3. This list must be submitted to DOW in the ATA Package. Contract Award Approval cannot be given until this form has been received by DOW.
4. The following information must be obtained from all prime and subcontractors. Please complete the form below:

ENTITY'S NAME	MAILING ADDRESS	CONTACT PERSON	PHONE#	E-MAIL ADDRESS	M/WBE?

BONDS AND INSURANCE

The minimum requirements shall be as follows:

Bonding requirements for contracts of \$100,000 or less are contained in 40 CFR 31.36(h).

Bond requirements for contracts in excess of \$100,000 are:

- Bid guarantee equivalent to five percent of the bid price. The bid guarantee shall consist of a firm commitment such as a certified check or bid bond submitted with the bid;
- Performance bond equal to 100 percent of the contract price, and
- Payment bond equal to 100 percent of the contract price. Bonds must be obtained from companies holding Certificates of Authority as acceptable sureties, issued by the U.S. Treasury.

Insurance requirements are contained in the General Conditions of the contract. In addition to the other required insurance, the owner or the contractor, as appropriate, must acquire any flood insurance made available by the Federal Emergency Management Agency as required by 44 CFR Parts 59-79, if construction will take place in a flood hazard area identified by the Federal Emergency Management Agency. The owner's requirements on Flood Insurance are contained in the Special Conditions Section of the Contracts Documents.

NOTICE OF INTENT

All construction projects with surface disturbance of more than 1 acre during the period of construction must have a KPDES Storm Water General Permit. The permit can be found at the following web address:

<https://dep.gateway.ky.gov/eForms/default.aspx?FormID=7>.

If you have any questions regarding the completion of this form call the Surface Water Permits Branch, at (502) 564-3410.

Davis-Bacon Wage Rate Requirements

CWSRF: The recipient agrees to include in all agreements to provide assistance for the construction of treatment works carried out in whole or in part with such assistance made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.), or with such assistance made available under section 205(m) of that Act (33 U.S.C. 1285(m)), or both, a term and condition requiring compliance with the requirements of section 513 of that Act (33 U.S.C. 1372) in all procurement contracts and sub-grants, and require that loan recipients, procurement contractors and sub-grantees include such a term and condition in subcontracts and other lower tiered transactions. All contracts and subcontracts for the construction of treatment works carried out in whole or in part with assistance made available as stated herein shall insert in full in any contract in excess of \$2,000 the contract clauses as set forth below titled “Wage Rate Requirements Under The Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6)”. This term and condition applies to all agreements to provide assistance under the authorities referenced herein, whether in the form of a loan, bond purchase, grant, or any other vehicle to provide financing for a project, where such agreements are executed on or after October 30, 2009.

DWSRF: The recipient agrees to include in all agreements to provide assistance for any construction project carried out in whole or in part with such assistance made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12), a term and condition requiring compliance with the requirements of section 1450(e) of the Safe Drinking Water Act (42 U.S.C.300j-9(e)) in all procurement contracts and sub-grants, and require that loan recipients, procurement contractors and sub-grantees include such a term and condition in subcontracts and other lower tiered transactions All contracts and subcontracts for any construction project carried out in whole or in part with assistance made available as stated herein shall insert in full in any contract in excess of \$2,000 the contract clauses as set forth below entitled “Wage Rate Requirements Under The Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6)”. This term and condition applies to all agreements to provide assistance under the authorities referenced herein, whether in the form of a loan, bond purchase, grant, or any other vehicle to provide financing for a project, where such agreements are executed on or after October 30, 2009.

Wage Rate Requirements Under The Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6)

Preamble

With respect to the Clean Water and Safe Drinking Water State Revolving Funds, EPA provides capitalization grants to each State which in turn provides subgrants or loans to eligible entities within the State. Typically, the subrecipients are municipal or other local governmental entities that manage the funds. For these types of recipients, the provisions set forth under Roman Numeral I, below, shall apply. Although EPA and the State remain responsible for ensuring subrecipients’ compliance with the wage rate requirements set forth herein, those subrecipients shall have the primary responsibility to maintain payroll records as described in Section 3(ii)(A), below and for compliance as described in Section I-5.

Occasionally, the subrecipient may be a private for profit or not for profit entity. For these types of recipients, the provisions set forth in Roman Numeral II, below, shall apply. Although EPA and the State remain responsible for ensuring subrecipients' compliance with the wage rate requirements set forth herein, those subrecipients shall have the primary responsibility to maintain payroll records as described in Section II-3(ii)(A), below and for compliance as described in Section II-5.

I. Requirements Under The Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6) For Subrecipients That Are Governmental Entities:

The following terms and conditions specify how recipients will assist EPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to EPA awards of financial assistance under the FY 2013 Continuing Resolution with respect to State recipients and subrecipients that are governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient. The recipient or subrecipient may also obtain additional guidance from DOL's website at <http://www.dol.gov/whd/>

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

Under the FY 2013 Continuing Resolution, DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the subrecipient shall monitor www.wdol.gov weekly to ensure that the wage determination contained in the solicitation remains current. The subrecipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

(ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination

contained in the solicitation shall be effective unless the State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(c) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2013 Continuing Resolution, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often

than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's website, www.dol.gov.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed

as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54). The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54). These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54), which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the

OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54) and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification.

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB . Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/contacts/whd/america2.htm>.

II. Requirements Under The Consolidated and further Continuing Appropriations Act, 2013 (P.L. 113-6) For Subrecipients That Are Not Governmental Agencies

The following terms and conditions specify how recipients will assist EPA in meeting its DB responsibilities when DB applies to EPA awards of financial assistance under the FY2013 Continuing Resolution with respect to subrecipients that are not governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient for guidance. The recipient or subrecipient may also obtain additional guidance from DOL's web site at <http://www.dol.gov/whd/>.

Under these terms and conditions, the subrecipient must submit its proposed DB wage determinations to the State recipient for approval prior to including the wage determination in any solicitation, contract task orders, work assignments, or similar instruments to existing contractors.

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

Under the FY 2013 Continuing Resolution, Davis-Bacon prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients must obtain proposed wage determinations for specific localities at www.wdol.gov. After the Subrecipient obtains its proposed wage determination, it must submit the wage determination to (insert contact information for State recipient DB point of contact for wage determination) for approval prior to inserting the wage determination into a solicitation, contract or issuing task orders, work assignments or similar instruments to existing contractors (ordering instruments unless subsequently directed otherwise by the State recipient Award Official).

(b) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the subrecipient shall monitor www.wdol.gov on a weekly basis to ensure that the wage determination contained in the solicitation remains current.

The subrecipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the subrecipient.

(ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(c) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the subrecipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.

(c) Subrecipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the subrecipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2013 Continuing Resolution, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona

bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient(s) to the State award official. The State award official will transmit the report, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request, and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s) shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or

mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will

no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the

contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54). The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54). These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient shall upon the request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54), which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of

such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in Item 3, above, in any contract subject only to the OSHA (P.L. 91-596) and Contract Work Hours and Safety Standards Act (P.L. 91-54) and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification.

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB . In addition, during

the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/whd/america2.htm> or its successor site.

Attachment Number 15

American Iron and Steel Requirement

The Contractor acknowledges to and for the benefit of the Lexington-Fayette Urban County Government (“Purchaser”) and the State of Kentucky (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement.

The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser).

While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

Sample Certification

The following information is provided as a sample letter of step certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (Rogers Road Area Stormwater Improvements Project)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

PART V
SPECIAL CONDITIONS
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1. BLASTING

Blasting shall only be allowed with the specific written permission from the OWNER and the CONTRACTOR will be fully responsible and will be required to provide additional insurance.

Blasting is only allowed by a licensed blaster in compliance with the State of Kentucky Laws, KRS Section 351.310 – 351.340 and applicable rules and regulations issued by the Department of Mines and Minerals.

CONTRACTOR shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of the intent to use explosives. Give such notice sufficiently in advance to enable those being notified to take the necessary steps to protect their property from injury. CONTRACTOR will be liable for any and all damages and claims made as a result of his blasting operations.

CONTRACTOR shall preserve the original bearing value of rock located under proposed structure foundations from damage by blasting, by concussion from the blasting or by excessive breakage. The CONTRACTOR shall bear any increase in structure costs caused by blasting damage to rock under proposed foundations.

2.

**RISK MANAGEMENT PROVISIONS
INSURANCE AND INDEMNIFICATION**

INDEMNIFICATION AND HOLD HARMLESS PROVISION

- (1) It is understood and agreed by the parties that Contractor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (2) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- (5) The work and services performed hereunder involve a CONSENT DECREE as further explained in Part 1-Advertisement for Bids, provision 13. These provisions are incorporated herein by reference as if expressly stated.
- (6) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.

FINANCIAL RESPONSIBILITY

BIDDER/CONTRACTOR understands and agrees that it shall, prior to final acceptance of its bid and the commencement of any work, demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions.

INSURANCE REQUIREMENTS

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Required Insurance Coverage

BIDDER/CONTRACTOR shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability aggregate (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million or \$2 million combined single limit
Commercial Automobile Liability occurrence (Insurance Services Office Form CA 0001)	combined single, \$1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00
Fire and Extended Coverage Insurance (Builder's Risk)	Construction Contract Value

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include a Products and Completed Operations

endorsement or Premises and Operations Liability endorsement unless it is deemed not to apply by LFUCG.

- d. The General Liability Policy shall include an Explosion-Collapse Underground (XCU) endorsement.
- e. The General Liability Policy shall include a Pollution liability and/or Environmental Casualty endorsement unless it is deemed not to apply by LFUCG.
- f. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- g. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.
- h. Owner requests that the Bidder obtain an Umbrella Liability endorsement to the CGL policy for a limit of liability of \$5 million and that this CGL policy endorsement be renewed for one (1) year after completion of this project.

Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

Deductibles and Self-Insured Programs

IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE. Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of BIDDER/CONTRACTOR's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If BIDDER/CONTRACTOR satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, BIDDER/CONTRACTOR agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

- a. Latest audited financial statement, including auditor's notes.

- b. Any records of any self-insured trust fund plan or policy and related accounting statements.
- c. Actuarial funding reports or retained losses.
- d. Risk Management Manual or a description of the self-insurance and risk management program.
- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

Safety and Loss Control

CONTRACTOR shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and LFUCG.

Verification of Coverage

BIDDER/CONTRACTOR agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

Right to Review, Audit and Inspect

CONTRACTOR understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to insure compliance with these Insurance Requirements.

DEFAULT

BIDDER/CONTRACTOR understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging BIDDER/CONTRACTOR for any such insurance premiums purchased, or suspending or terminating the work.

3. **WAGE SCALES** – Both federal and state wages are required on all KIA projects.

END OF SECTION

General Decision Number: KY150161 08/21/2015 KY161

Superseded General Decision Number: KY20140161

State: Kentucky

Construction Type: Heavy

Counties: Bourbon, Clark, Fayette, Jessamine, Scott and Woodford Counties in Kentucky.

HEAVY CONSTRUCTION PROJECTS (including sewer/water construction).

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	01/23/2015
2	05/01/2015
3	06/05/2015
4	06/19/2015
5	07/17/2015
6	08/21/2015

ELEC0369-004 09/01/2014

	Rates	Fringes
LINE CONSTRUCTION		
Equipment Operator.....	\$ 30.51	11.25
Groundman.....	\$ 20.21	9.19
Lineman.....	\$ 34.13	13.02

* ELEC0369-008 05/27/2015

	Rates	Fringes
ELECTRICIAN.....	\$ 30.01	15.65

ENGI0181-016 06/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 27.66	14.15

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Crane; Forklift

Operators on cranes with boom 150 feet and over, including jib, shall receive \$0.75 above Group 1. All cranes with piling leads will receive \$0.50 above Group 1 rate regardless of boom length. Combination rate shall mean \$0.50 per hour above the basic hourly rate of pay.

Employees assigned to work below ground level are to be paid 10% above basic wage rate. This does not apply to open cut work.

* ENGI0181-051 07/01/2015

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 29.95	14.40
GROUP 2.....	\$ 27.26	14.40
GROUP 4.....	\$ 26.96	14.40

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Drill; Pumpcrete; Roller (Bituminous)

GROUP 2 - Bobcat/Skid Steer/Skid Loader; Concrete Pump; Roller (Rock)

GROUP 4 - Pump; Roller (Earth)

Operators on cranes with booms 150 feet and over (including jib) shall receive \$1.00 above Group 1 rate; 250 feet and over including jib shall receive \$1.50 above Class 1 rate. Combination Rate: All crane operators operating cranes, where the length of the boom in combination with the length of the piling leads equal or exceeds 150 feet, shall receive \$1.00 above the Group 1 rate.

Employees assigned to work below ground level are to be paid 10% above basic wage rate. This does not apply to open cut work.

IRON0044-005 06/01/2015

	Rates	Fringes
IRONWORKER (STRUCTURAL AND REINFORCING).....	\$ 26.40	19.15

IRON0070-011 06/01/2015

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 27.56	20.30

LABO0189-020 07/01/2015

	Rates	Fringes
LABORER		
Concrete Worker.....	\$ 22.30	12.46

LABO0265-014 05/01/2015

	Rates	Fringes
LABORER		
Concrete Saw (Hand Held/Walk Behind).....	\$ 28.89	9.85
Flagger.....	\$ 28.72	9.85

SUKY2011-038 06/25/2014

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 24.80	8.76
LABORER: Common or General.....	\$ 22.17	9.64
LABORER: Concrete Finishing.....	\$ 25.75	8.60
LABORER: Pipelayer.....	\$ 19.66	10.85
OPERATOR:		
Backhoe/Excavator/Trackhoe.....	\$ 22.56	12.10
OPERATOR: Bulldozer.....	\$ 27.90	13.00
OPERATOR: Loader.....	\$ 26.68	13.00
OPERATOR: Mechanic.....	\$ 28.60	11.83
OPERATOR: Oiler.....	\$ 24.34	13.00
OPERATOR: Trencher.....	\$ 26.27	12.37
TRUCK DRIVER: Dump Truck.....	\$ 17.82	3.26

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
 Wage and Hour Division
 U.S. Department of Labor
 200 Constitution Avenue, N.W.
 Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
 U.S. Department of Labor
 200 Constitution Avenue, N.W.
 Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
 U.S. Department of Labor
 200 Constitution Avenue, N.W.
 Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION



Steven L. Beshear
Governor

KENTUCKY LABOR CABINET
DEPARTMENT OF WORKPLACE STANDARDS
DIVISION OF EMPLOYMENT STANDARDS,
APPRENTICESHIP & MEDIATION
1047 US Hwy 127 S - Suite 4
Frankfort, Kentucky 40601
Phone: (502) 564-3534
Fax (502) 696-1897
www.labor.ky.gov

Larry Roberts
Secretary

Anthony Russell
Commissioner

October 28, 2015

Fred Eastridge
ECSI LLC
340 S. Broadway Ste. 100
Lexington KY 40508

Re: LFUCG, Ph. II Stormwater Improvements on Roger Road

Advertising Date as Shown on Notification: October 29, 2015

Dear Fred Eastridge:

This office is in receipt of your written notification on the above project as required by KRS 337.510 (1).

I am enclosing a copy of the current prevailing wage determination number CR 1-012, dated November 6, 2014 for FAYETTE County. This schedule of wages shall be attached to and made a part of the specifications for the work, printed on the bidding blanks, and made a part of the contract for the construction of the public works between the public authority and the successful bidder or bidders.

The determination number assigned to this project is based upon the advertising date contained in your notification. There may be modifications to this wage determination prior to the advertising date indicated. In addition, if the contract is not awarded within 90 days of this advertising date or if the advertising date is modified, a different set of prevailing rates of wages may be applicable. It will be the responsibility of the public authority to contact this office and verify the correct schedule of the prevailing rates of wages for use on the project. Your project number is as follows: 034-H-01398-14-1, Heavy/Highway

Sincerely,

Anthony Russell
Commissioner



**KENTUCKY LABOR CABINET
PREVAILING WAGE DETERMINATION
CURRENT REVISION
LOCALITY NO. 012**

FAYETTE COUNTY

Determination No. CR 1-012

Date of Determination: November 6, 2014

PROJECT NO. 034-H-01398-14-1

_____ **BLDG** ___x___ **HH**

This schedule of the prevailing rate of wages for Locality No. 012, which includes Fayette County, has been determined in accordance with the provisions of KRS 337.505 to 337.550. This determination shall be referred to as Prevailing Wage Determination No. CR 1-012.

Apprentices shall be permitted to work as such subject to Administrative Regulations 803 KAR 1:010. Copies of these regulations will be furnished upon request to any interested person.

Overtime is to be computed at not less than one and one-half (1 1/2) times the indicated BASE RATE for all hours worked in excess of eight (8) per day, and/or in excess of forty (40) per week. However, KRS 337.540 permits an employee and employer to agree, in writing, that the employee will be compensated at a straight time base rate for hours worked in excess of eight (8) hours in any one calendar day, but not more than ten (10) hours worked in any one calendar day, if such written agreement is prior to the over eight (8) hours in a calendar day actually being worked, or where provided for in a collective bargaining agreement. The fringe benefit rate is to be paid for each hour worked at a straight time rate for all hours worked. Fringe benefit amounts are applicable for all hours worked except when otherwise noted. Welders will receive rate for craft in which welding is incidental.

No laborer, workman or mechanic shall be paid at a rate less than that of the General Laborer except those classified as bona fide apprentices registered with the Kentucky State Apprenticeship Supervisor unless otherwise specified in this schedule of wage rates.

NOTE: The type of construction shall be determined by applying the following definitions.

BUILDING CONSTRUCTION

Building construction is the construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment, or supplies. It includes all construction of such structures, the installation of utilities and the installation of equipment, both above and below grade level, as well as incidental grading, utilities and paving.

HIGHWAY CONSTRUCTION

Highway construction includes the construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction. It includes all incidental construction in conjunction with the highway construction project.

HEAVY CONSTRUCTION

Heavy projects are those projects that are not properly classified as either "building" or "highway". For example, dredging projects, water and sewer line projects, dams, flood control projects, sewage treatment plants and facilities, and water treatment plants and facilities are considered heavy.



Anthony Russell, Commissioner
Department of Workplace Standards
Kentucky Labor Cabinet

ASBESTOS/INSULATION WORKERS:		BASE RATE	\$24.92
		FRINGE BENEFITS	12.57

BOILERMAKERS:		BASE RATE	\$21.75
		FRINGE BENEFITS	11.76

BRICKLAYERS:		BASE RATE	\$24.31
Bricklayers:		FRINGE BENEFITS	11.40

Firebrick & Refractory:		BASE RATE	\$26.08
		FRINGE BENEFITS	11.42

Sawman & Layman:		BASE RATE	24.56
		FRINGE BENEFITS	11.40

CARPENTERS:		BASE RATE	\$22.72
Carpenters:	BUILDING	FRINGE BENEFITS	13.01
(Includes Drywall Finisher)			

Piledrivermen:	BUILDING	BASE RATE	\$23.22
		FRINGE BENEFITS	13.01

Carpenters:	HEAVY & HIGHWAY	BASE RATE	\$26.90
		FRINGE BENEFITS	14.50

Piledriver:	HEAVY & HIGHWAY	BASE RATE	\$27.15
		FRINGE BENEFITS	14.50

Divers:	HEAVY & HIGHWAY	BASE RATE	\$40.73
		FRINGE BENEFITS	14.50

CEMENT MASONS:		BASE RATE	\$22.00
		FRINGE	12.75

ELECTRICIANS:		BASE RATE	\$29.88
		FRINGE BENEFITS	14.78

When workmen are required to work from bosun chairs, trusses, stacks, tanks, scaffolds, catwalks, radio and T.V. towers, structural steel (open, unprotected, unfloored raw steel) and bridges or similar hazardous locations where workmen are subject to a direct fall: 50 feet to 75 feet – add 25% above the workman’s hourly rate, over 75 feet add 50% above workman’s hourly rate. No premium shall be paid on work performed using JLGs, bucket trucks or other similar elevated mechanized work platforms up to 75 feet above the surface upon which the platform sits.

LINEMAN:	HEAVY HIGHWAY	BASE RATE	\$34.13
		FRINGE BENEFITS	11.97

EQUIPMENT OPERATOR:	HEAVY HIGHWAY	BASE RATE	\$30.51
		FRINGE BENEFITS	11.26

GROUNDSMAN:	HEAVY HIGHWAY	BASE RATE	\$20.21
		FRINGE BENEFITS	9.19

ELEVATOR CONSTRUCTORS:	BASE RATE	\$30.46
	FRINGE BENEFITS	8.92

GLAZIERS:	BASE RATE	\$24.15
	FRINGE BENEFITS	11.45

IRONWORKERS:	BASE RATE	\$26.97
	FRINGE BENEFITS	20.01

LABORERS / BUILDING:

BUILDING GROUP 1: General laborers, asbestos abatement laborer, toxic waste removal laborer, water boys, tool room checker, carpenter tenders, (civil engineer helper, rodman, grade checker, excluding all field work performed by Engineering Firms), concrete pouring and curing, concrete forms stripping and wrecking, hand digging and backfilling of ditches, clearing of right of ways and building sites, wood sheeting and shoring, signalman for concrete bucket and general cleaning, and environmental laborer - nuclear, radiation, toxic and hazardous waste - Level D:

BUILDING	*BASE RATE	\$21.01
	FRINGE BENEFITS	11.09

BUILDING GROUP 2: All air tool operators, air track drills, asphalt rakers, tampers, batchers plant and scale man, chain saw, concrete saw, cutter/burner, electric hand grinder, all electric bush and chipping hammers, flagmen, forklift operators, form setter (street or highway), metal form setters, heaters, mesh handlers on walkways, streets and roadways outside building, gunnite laborers, hand spiker, introflax burning rod, joint makers, mason tender, multi-trade tender, pipe layers, plaster tender, powderman helpers, power driven Georgia buggies, power posthole diggers, railroad laborers, sandblaster laborers, scow man and deck hand, signal man, sweeper and cleaner machines, vibrator operators, vibrator/tamper operated by hand or remote control, walk behind trenching machines, mortar mixer machines, water pumpmen, and environmental laborers - nuclear, radiation, toxic and hazardous waste - Level C:

BUILDING	*BASE RATE	\$21.41
	FRINGE BENEFITS	11.09

BUILDING GROUP 3: Asphalt paver screwman, gunnite nozzleman and gunnite nozzle machine operator, sand blaster nozzleman, concrete or grout pumpman, plaster pumpman:

BUILDING	*BASE RATE	\$21.61
	FRINGE BENEFITS	11.09

BUILDING GROUP 4: Powderman and blaster, and environmental laborer - nuclear, radiation, toxic and hazardous waste - Level B:

BUILDING	*BASE RATE	\$21.71
	FRINGE BENEFITS	11.09

BUILDING GROUP 5: Caisson holes (6 ft. and over) pressure and free air including tools, and environmental laborer - nuclear, radiation, toxic and hazardous waste - Level A:

BUILDING	*BASE RATE	\$22.21
	FRINGE BENEFITS	11.09

BUILDING GROUP 6: Tunnel man and tunnel sand miner, cofferdam (pressure and free air), sand hog or mucker (pressure or free air):

BUILDING	*BASE RATE	\$22.51
	FRINGE BENEFITS	11.09

***Employees handling chemically treated materials which are harmful to the skin shall receive an additional \$50 above base rate. Employees working on high work such as towers or smoke stacks, or any type of work fifty (50) feet above the ground or a solid floor shall receive \$1.00 above base rate. Employees working on boilers, kilns, melting tanks, furnaces, or when refractory is done using live fires, drying fires, heatups or any hot work shall receive \$2.00 above base rate.**

LABORERS / HEAVY & HIGHWAY:

HEAVY HIGHWAY GROUP 1: Aging and curing of concrete (any mode or method), asbestos abatement worker, asphalt plant laborers, asphalt laborers, batch truck dumpers, carpenter tenders, cement mason tenders, cleaning of machines, concrete laborers, demolition laborers, dredging laborers, drill helper, environmental laborer - nuclear, radiation, toxic and hazardous waste - Level D, flagmen, grade checkers, all hand digging and hand back filling, highway marker placers, landscaping laborers, mesh handlers and placers, puddler, railroad laborers, rip-rap and grouters, right of way laborers, sign, guard rail and fence installers (all types), signal men, sound barrier installer, storm and sanitary sewer laborers, swamper, truck spotters and dumpers, and wrecking of concrete forms, general cleanup:

HEAVY & HIGHWAY	BASE RATE	\$21.80
	FRINGE BENEFITS	12.36

HEAVY HIGHWAY GROUP 2: Batter board men (sanitary and storm sewer), brickmason tenders, mortar mixer operator, scaffold builders, burner and welder, bushhammers, chain saw operator, concrete saw operators, deckhand scow man, dry cement handlers, environmental laborers - nuclear, radiation, toxic and hazardous waste - Level C, forklift operators for masonry, form setters, green concrete cutting, hand operated grouter and grinder machine operator, jack hammers, lead paint abatement, pavement breakers, paving joint machine, pipe layers-laser operators (non-metallic), plastic pipe fusion, power driven Georgia buggy or wheelbarrow, power post hole diggers, precast manhole setters, walk-behind tampers, walk-behind trenchers, sand blasters, concrete chippers, surface grinders, vibrator operators, wagon drillers:

HEAVY & HIGHWAY	BASE RATE	\$22.05
	FRINGE BENEFITS	12.36

HEAVY HIGHWAY GROUP 3: Asphalt luteman and rakers, gunnite nozzleman, gunnite operators and mixers, grout pump operator, side rail setters, rail paved ditches, screw operators, tunnel laborers (free air), and water blasters:

HEAVY & HIGHWAY	BASE RATE	\$22.10
	FRINGE BENEFITS	12.36

HEAVY HIGHWAY GROUP 4: Caisson workers (free air), cement finishers, environmental laborer - nuclear, radiation, toxic and hazardous waste - Levels A and B, miners and drillers (free air), tunnel blasters, and tunnel muckers (free air), directional and horizontal boring, air track driller (all types), powder man and blaster:

HEAVY & HIGHWAY	BASE RATE	\$22.70
	FRINGE BENEFITS	12.36

MARBLE, TILE & TERRAZZO:

Finishers:

	BASE RATE	\$15.48
	FRINGE BENEFITS	0.00

Setters:

	BASE RATE	\$22.49
	FRINGE BENEFITS	0.00

MILLWRIGHTS:

	BASE RATE	\$24.18
	FRINGE BENEFITS	15.67

OPERATING ENGINEERS / BUILDING:

NCCCO OR OSCP CERTIFIED

BUILDING CLASS A-1: Crane, dragline, hoist (1 drum when used for stack or chimney construction or repair); hoisting engineer (2 or more drums), orangepeel bucket, overhead crane, piledriver, truck crane, tower crane, hydraulic crane:

BUILDING	BASE RATE	\$28.75
	FRINGE BENEFITS	14.15

OPERATING ENGINEERS / BUILDING: CONTINUED

BUILDING CLASS A: Articulating dump, auto patrol, batcher plant, bituminous paver, cableway, central compressor plant, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, directional boring machine, ditching and trenching machine, dragline, dredge operator, dredge engineer, elevating grader and all types of loaders, forklift (regardless of lift height), GPS systems (on equipment within the classification), hoe type machine, hoist (1 drum when used for stack or chimney construction or repair), hoisting engineer (2 or more drums), laser or remote controlled equipment (within the classification), locomotive, motor scraper, carry-all scoop, bulldozer, heavy duty welder, mechanic, orangepeel bucket, piledriver, power blade, motor grader, roller (bituminous), scarifier, shovel, tractor shovel, truck crane, winch truck, push dozer, highlift, all types of boom cats, self contained core drill, hopto, tow or push boat, a-frame winch truck, concrete paver, gradeall, hoist, hyster, pumpcrete, Ross carrier, boom, tail boom, rotary drill, hydro hammer, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, backfiller, gurrries, sub-grader, tunnel mining machines including moles, shields, or similar types of tunnel mining equipment:

BUILDING	*BASE RATE	\$27.66
	FRINGE BENEFITS	14.15

***Operators on cranes with boom one-hundred fifty feet (150') and over including jib, shall receive seventy-five cents (\$.75) above base rate. All cranes with piling leads will receive \$.50 above base rate regardless of boom length**

BUILDING CLASS B: All air compressors (over 900 CFM), bituminous mixer, joint sealing machine, concrete mixer (under 21 cu. ft.), form grader, roller (rock), tractor (50 HP and over), bull float, finish machine, outboard motor boat, flexplane, fireman, boom type tamping machine, truck crane oiler, greaser on grease facilities servicing heavy equipment, switchman or brakeman, mechanic helper, whirley oiler, self-propelled compactor, tractair and road widening trencher and farm tractor with attachments (except backhoe, highlift and endloader), elevator (regardless of ownership when used for hoisting any building material), hoisting engineer (1-drum or buck hoist), firebrick (masonry excluded), well points, grout pump, throttle-valve man, tugger, electric vibrator compactor, and caisson drill helper:

BUILDING	BASE RATE	\$24.68
	FRINGE BENEFITS	14.15

BUILDING CLASS C: Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, roller (earth), tamping machine, tractors (under 50 HP), vibrator, oiler, concrete saw, burlap and curing machine, hydro-seeder, power form handling equipment, deckhand steersman, hydraulic post driver, and drill helper:

BUILDING	BASE RATE	\$23.85
	FRINGE BENEFITS	14.15

**OPERATING ENGINEERS / HEAVY HIGHWAY:
NCCCO OR OECF CERTIFIED**

HEAVY HIGHWAY CLASS A-1: Cableway, carry deck crane, cherry picker, clamshell, crane, derrick, derrick boat, dragline, hoist engine (2 or more drums), hydraulic boom truck, hydrocrane, organgepeel bucket, overhead crane, piledriver, rough terrain crane, tower cranes (French, German & other types), truck crane:

HEAVY HIGHWAY	BASE RATE	\$29.95
	FRINGE BENEFITS	14.15

OPERATING ENGINEERS / HEAVY HIGHWAY: CONTINUED

HEAVY HIGHWAY CLASS A: A-frame winch truck, auto patrol, backfiller, batcher plant, bituminous paver, bituminous transfer machine, all types of boom cats, bulldozer, cableway, carry-all scoop, carry deck crane, central compressor plant operator, clamshell, concrete mixer (21 cu. ft. or over), concrete paver, truck-mounted concrete pump, core drills, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge operator, dredge engineer, earth movers, elevating grader and all types of loaders, grade-all, gurrries, heavy equipment robotics operator/mechanic, high lift, hoe-type machine, hoist (two or more drums), hoisting engine (two or more drums), horizontal directional drill operator, hydraulic boom truck, hydrocrane, hyster, KeCal loader, Letourneau, Locomotive, mechanic, mechanically operated laser screed, mechanic welder, mucking machine, motor scraper, orangepeel bucket, piledriver, power blade, pumpcrete push doxer, rock spreader attached to equipment, all rotary drills, roller (bituminous), scarifier, scoopmobile, shovel, side boom, subgrader, tallboom, telescoping type forklift, tow or push boat, tower cranes (French, German and other types) tractor shovel and truck crane, tunnel mining machines including moles, shields, or similar types of tunnel mining equipment:

HEAVY & HIGHWAY	BASE RATE	\$28.85
	FRINGE BENEFITS	14.15

Operators on cranes with booms one hundred fifty feet (150') and over including jib shall receive \$.50 above base rate.

HEAVY HIGHWAY CLASS B: All air compressors (over 900 cu. ft. per min.), bituminous mixer, boom type tamping machine, bull float, concrete mixer (under 21 cu. ft.), dredge engineer, electric vibrator compactor/self-propelled compactor, elevator (one drum or buck hoist), elevator (regardless of ownership when used to hoist building material), finish machine, firemen, flexplane, forklift (regardless of lift height), form grader, hoist (one drum), joint sealing machine, mechanic helper, outboard motor boat, power sweeper (riding type), roller (rock), ross carrier, skid mounted or trailer mounted concrete pumps, skid steer machine with all attachments, switchman or brakeman, throttle valve man, Tract air and road widening trencher, tractor (50 HP and over), truck crane oiler, tugger, welding machine, well points, and whirley oiler:

HEAVY & HIGHWAY	BASE RATE	\$26.24
	FRINGE BENEFITS	14.15

HEAVY HIGHWAY CLASS B2: Greaser on grease facilities servicing heavy equipment, all off road material handling equipment, including articulating dump trucks:

HEAVY & HIGHWAY	BASE RATE	\$26.65
	FRINGE BENEFITS	14.15

HEAVY HIGHWAY CLASS C: Bituminous distributor, burlap and curing machine, caisson drill and core drill helper (track or skid mounted), cement gun, concrete saw, conveyor, deckhand oiler, grout pump, hydraulic post driver, hydro seeder, mud jack, oiler, paving joint machine, power form handling equipment, pump, roller (earth), steermen, tamping machine, tractors (under 50 H.P.) and vibrator:

HEAVY & HIGHWAY	BASE RATE	\$25.95
	FRINGE BENEFITS	14.15

 **Operators on cranes with booms one hundred fifty feet (150') and over including jib shall receive \$.50 above base rate.

PAINTERS:

Brush, roller & paperhanger:

	BASE RATE	\$17.87
	FRINGE BENEFITS	9.10

Spray, sandblast, waterblast (4000+ PSI), fireproofing & lead abatement:

	BASE RATE	\$18.37
	FRINGE BENEFITS	9.10

PLASTERERS:

	BASE RATE	\$20.65
	FRINGE BENEFITS	5.85

PLUMBERS & PIPEFITTERS:		BASE RATE	\$31.00
		FRINGE BENEFITS	17.06

ROOFERS: (Excluding Metal Roofs)		BASE RATE	\$22.03
		FRINGE BENEFITS	9.10

SHEETMETAL WORKERS: (Including Metal Roofs)		BASE RATE	\$28.00
		FRINGE BENEFITS	13.59

SPRINKLER FITTERS:		BASE RATE	\$30.14
		FRINGE BENEFITS	17.37

TRUCK DRIVERS / BUILDING:

Truck Helper and Warehouseman:	BUILDING	BASE RATE	\$19.05
		*FRINGE BENEFITS	11.08

Driver - 3 tons and under, Greaser, Tire Changer and Mechanic Helper:	BUILDING	BASE RATE	\$19.17
		*FRINGE BENEFITS	11.08

Driver - over 3 tons, Drivers, Semi-Trailer or Pole Trailer; Dump Trucks, Tandem Axle; Farm Tractor when used to pull building material or equipment:	BUILDING	BASE RATE	\$19.28
		*FRINGE BENEFITS	11.08

Drivers, Concrete Mixer Trucks (all types, hauling on job sites only); Truck Mechanics:	BUILDING	BASE RATE	\$19.35
		*FRINGE BENEFITS	11.08

Drivers, Euclid and other Heavy Earth Moving Equipment and Low Boy, Winch Truck and A-Frame Truck and Monorail Truck when used to transport building materials, Forklift Truck when used inside warehouse or storage area:	BUILDING	BASE RATE	\$19.45
		*FRINGE BENEFITS	11.08

BUILDING TRUCK DRIVERS: Drivers working or hauling to or from any hazardous or toxic site will add \$4.00 to base rate. *TRUCK DRIVER FRINGE BENEFITS apply to employees who have been employed a minimum or twenty (20) calendar days within any ninety (90) consecutive day period of that employer.

TRUCK DRIVERS / HEAVY HIGHWAY:

Mobile batch truck helper:	HEAVY & HIGHWAY	BASE RATE	\$16.57
		FRINGE BENEFITS	7.34

Greaser, tire changer and mechanic helper:	HEAVY & HIGHWAY	BASE RATE	\$16.68
		FRINGE BENEFITS	7.34

Single axle dump, flatbed, semi-trailer or pole trailer when used to pull building materials and equipment, tandem axle dump, distributor and truck mechanic:	HEAVY & HIGHWAY	BASE RATE	\$16.86
		FRINGE BENEFITS	7.34

TRUCK DRIVERS / HEAVY HIGHWAY: CONTINUED

Euclid and other heavy earthmoving equipment and lowboy, articulator cat, 5-axle vehicle, winch and A-frame when used in transporting materials, ross carrier, forklift when used to transport building materials, and pavement breaker:

HEAVY & HIGHWAY	BASE RATE	\$16.96
	FRINGE BENEFITS	7.34

END OF DOCUMENT
CR 1-012
NOVEMBER 6, 2014

PART VI
CONTRACT AGREEMENT

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PART VI

CONTRACT AGREEMENT

THIS AGREEMENT, made on the _____ day of _____, 20____, by and between **Lexington-Fayette Urban County Government**, acting herein called "OWNER" and _____ **(bidder's name)** _____, doing business as *(an individual) (a partnership) (a corporation) located in the City of _____, County of _____, and State of _____, hereinafter called "CONTRACTOR."

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of _____ Dollars and _____ Cents (\$ _____) quoted in the proposal by the CONTRACTOR, dated _____, hereby agree to commence and complete the construction described as follows:

1. SCOPE OF WORK

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, and the Special Conditions of the Contract, the Specifications and Contract Documents therefore as prepared by ECSI, LLC for the Rogers Road Area Stormwater Improvements Project.

2. TIME OF COMPLETION AND LIQUIDATED DAMAGES

The time period estimated and authorized by the OWNER for the proper execution of the Work by the Contract, in full, is hereby fixed as **TIME OF COMPLETION Two Hundred Forty (240)** calendar days. The time shall begin ten (10) days after the CONTRACTOR is given the Notice to Proceed with the Work. **TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS AGREEMENT AND CONTRACTOR SHALL BE LIABLE AND RESPONSIBLE FOR DAMAGES SUFFERED BY OWNER AS A RESULT OF THE DELAY CAUSED BY CONTRACTOR.**

Should the contractor fail or refuse to complete the work within the time specified in his Proposal and/or Contract (or extension of time granted by the owner), the Contractor shall pay liquidated damages in an amount of **\$500.00 per day**. The amount of liquidated damages shall in no event be considered as a penalty, nor other than an amount agreed upon by the Contractor and the Owner for damages, loses, additional engineering, additional resident representation and other cost that will be sustained by the owner, if the Contractor fails to complete the work within the specified time. Liquidated damages will be applied on a rate per day for each and every calendar day (Sundays and holidays included) beyond the Contract expiration date stipulated in the Contract Documents, considering all time extension granted. **These Liquidated Damages are in addition to any other damages/fees/penalties that are incurred as a result of Consent Decree requirements.**

3. ISSUANCE OF WORK ORDERS

Notice to begin Work will be given in whole or for 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.

4. THE CONTRACT SUM

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

5. PROGRESS PAYMENTS

The OWNER shall make payments on account of the Contract, as provided in accordance with the General Conditions, as estimated by the Engineer, less the aggregate of previous payments.

6. ACCEPTANCE AND FINAL PAYMENT

Final payment shall be due within ninety (90) days after completion of the Work, provided the Work be then fully completed and the Contract fully accepted.

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 Work 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 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.

7. THE CONTRACT DOCUMENTS

The Advertisement for Bids, Information for Bidders, the General Conditions, Performance and Payment Bonds, Contract Agreement, Special Conditions, Technical Specifications, any and all Addenda, and Proposal, and Plan Drawings form the Contract, and they are fully a part of the Contract as if hereto attached or herein repeated.

8. EXTRA WORK

The OWNER, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the Work, the Contract Sum being adjusted accordingly. All such Work shall be executed and paid for in accordance with the General Conditions, which is a part of this Contract.

9. CONSENT DECREE REQUIREMENTS

9.1 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.

9.2 TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS AGREEMENT. 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 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.

9.3 The provisions of this Section and the various rates of compensation for CONTRACTOR's services provided for elsewhere in this Agreement have been agreed to in anticipation of the orderly and continuous progress of the PROJECT through completion.

9.4 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 PROJECT 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. Section 9.6 of this Agreement (Disputes) shall apply in the event the parties cannot agree upon an extension of time.

In the event that the overall delay resulting from the above-described causes is sufficient to prevent complete performance of the Agreement 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. Section 9.6 of this Agreement shall apply in the event the parties cannot agree upon an adjustment of fee.

9.5 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 as provided in Section 9.2, above. Section 9.6 of this Agreement (Disputes), 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.

9.6 DISPUTES

Except as otherwise provided in this Agreement, 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 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 in accordance with the directions of the OWNER.

10. THE FOLLOWING IS AN ENUMERATION OF THE SPECIFICATIONS AND DRAWINGS (CONTRACT DOCUMENTS):

SPECIFICATIONS

SECTION NO.	TITLE	PAGES
I	Advertisement for Bids	AB 1 through 5
II	Information for Bidders	IB 1 through 9
III	Form of Proposal	P 1 through 30
IV	General Conditions	GC1 through 51
IV-A	KIA Supplemental General Conditions	SGA 1 through 66
V	Special Conditions	SC 1 through 7
VI	Contract Agreement	CA 1 through 5
VII	Performance and Payment Bonds	PB 1 through 7
VIII	Technical Specifications	TS 1 through 106

APPENDIX ALFUCG STANDARD DETAIL DRAWINGS

PLAN DRAWINGS

- ES1.0 Easement Summary Sheet
- GN1.0 General Summary of Quantities
- GN1.1 General Notes
- S1.0 Survey Index Sheet S1.0
Survey (Sheets S1.1, S1.2, S1.3, S1.4, S1.5, S1.6, S1.7 & S1.8)
- DS1.0 Demolition Plan
- SS1.0 Sanitary Sewer Index Sheet

- SS1.1 Sanitary Sewer Line “A” & “B”
- SS1.2 Sanitary Sewer Line “C” & “D”
- SS1.3 Sanitary Sewer Line “E”
- SD1.0 Proposed Storm Sewer Lines Index Sheet
- SD1.1 Proposed Storm Sewer Lines Index Sheet
- SD2.0 Proposed Storm Sewer Line
Plan and Profile – Storm Sewer Line “A” Sta. 0+00 to Sta. 6+00
- SD2.1 Proposed Storm Sewer Line
Plan and Profile – Storm Sewer Line “A” Sta. 6+00 to Sta. 11+50
- SD2.2 Proposed Storm Sewer Line
Plan and Profile – Storm Sewer Line “A” Sta. 11+50 to Sta. 16+50
- SD2.3 Proposed Storm Sewer Line
Plan and Profile – Storm Sewer Line “A” Sta. 16+50 to Sta. 22+00
- SD2.4 Proposed Storm Sewer Line
Plan and Profile – Storm Sewer Line “A” Sta. 22+00 to Sta. 26+00
- SD2.5 Proposed Storm Sewer Line
Plan and Profile – Storm Sewer Line “A” Sta. 26+00 to 28+18
- SD2.6 Proposed Storm Sewer Line
Plan and Profile – Storm Sewer Lines “B”, “C” & “D”
- SD2.7 Proposed Sanitary Sewer Line
Plan and Profile – Sanitary Sewer Lines “E”, “F” & “G”
- SD2.8 Proposed Sanitary Sewer Line
Plan and Profile – Sanitary Sewer Lines “H”, “I”, “J” & “K”
- SD2.9 Proposed Sanitary Sewer Line
Plan and Profile – Sanitary Sewer Lines “L” & “M”
- SD3.0 Proposed Water Quality Unit
- SD3.1 Proposed Handicapped Ramps – Rogers Road & Allen Drive

IN WITNESSETH WHEREOF, the parties hereto have executed this Contract as of the date and year above written.

(Seal)

Lexington-Fayette Urban County Government.
Lexington, Kentucky

(Owner)

ATTEST:

Clerk of the Urban County Council

BY: _____
MAYOR

(Witness)

(Title)

(Seal)

(Contractor)

(Secretary)*

BY: _____

(Witness)

(Title)

(Address and Zip Code)

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 Contract.

PART VII

PERFORMANCE AND PAYMENT BONDS

1 PERFORMANCE BONDPB-2
2. PAYMENT BONDPB-5

PART VII

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

(Name of CONTRACTOR)

(Address of CONTRACTOR)

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

called Principal, and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

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

hereinafter called "OWNER" in the penal sum of: _____
Dollars, (\$_____), 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 a Contract with OWNER for Construction of
Rogers Road Area Stormwater Improvements Project in accordance with Drawings and Specifications
prepared by _____ ECSI, LLC, which Contract is by reference made a part hereof, and is
hereinafter referred to as the Contract.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall
promptly and faithfully perform said 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 Contract, the OWNER
having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall
promptly:

- (1) Complete the Contract in accordance with its terms and conditions or
- (2) Obtain a bid or bids for completing the 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 a 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 Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price; 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 Contract Price", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the 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 two (2) years 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 _____ counterparts, each one of
(number)

which shall be deemed an original, this the _____ day of _____, 20_____.

ATTEST:

Principal

(Principal) Secretary

BY: _____(s)

(Address)

Witness as to Principal

(Address)

ATTEST:

Surety
BY: _____
Attorney-in-Fact

(Surety) Secretary

(Address)

(SEAL)

Witness as to Surety

(Address)

TITLE: _____
Surety

BY: _____

TITLE: _____

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

PART VII
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENT: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter
(Corporation, Partnership or Individual)

called Principal, and _____
(Name of Surety)

(Address of Surety)

hereinafter 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, for the use and benefit of claimants as hereinafter defined, in the amount of _____ Dollars (\$ _____) the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement is entering into a Contract with OWNER for Construction of Rogers Road Area Stormwater Improvements Project in accordance with Drawings and Specifications prepared by _____ ECSI, LLC, which Contract is by reference made a part hereof, and is hereinafter referred to as the 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 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 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 Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The OWNER shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the OWNER, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the Work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the Work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, OWNER, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
 - (b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against aid improvement, whether or not claim for the amount of such lien be presented under and against this bond.

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

which shall be deemed an original, this the _____ day of _____, 20_____.

ATTEST:

(Principal) Secretary

(Principal)

(SEAL) BY: _____(s)

(Address)

(Witness to Principal)

(Address)

ATTEST:

(Surety)

BY: _____
(Attorney-in-Fact)

(Surety) Secretary

(SEAL)

Witness as to Surety

(Address)

(Address)

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

END OF SECTION

PART VIII

ADDENDA

All addenda issued during the bidding of the Project will be reproduced in the signed Contract Documents, on the pages following this heading sheet.

<u>Addendum Number</u>	<u>Title</u>	<u>Date</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

PART IX
TECHNICAL SPECIFICATIONS

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PART IX

TECHNICAL SPECIFICATIONS

SECTION A - GENERAL PROVISIONS

A.1 KENTUCKY DEPARTMENT OF HIGHWAYS - SPECIFICATIONS

Except as indicated on the Plans, and in the Contract Documents and Specifications, all items of work including materials, construction methods, method of measurement and basis of payment shall comply with the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction and all current revisions.

With regard to the incorporation of Standard Specifications of KDOH into these Technical Specifications, the following should be noted:

Unless either the content implicitly or the Plans and Contract Documents and Specifications explicitly indicate otherwise, all KDOH references to "the Department" should be construed as being references to the Lexington-Fayette Urban County Government (LFUCG).

Any discrepancy between the Standard Specifications of KDOH and the express intentions of Lexington-Fayette Urban County Government (i.e., Plans, Contract Documents and Specifications, and Lexington-Fayette Urban County Government Standard Drawings) shall be resolved in favor of the latter. (An example of one of the more common types of discrepancy is that which sometimes occurs with regard to the measurement of and payment for Work items.)

A.2 ABBREVIATIONS

Abbreviations of standards, codes, and publications used within these specifications are as follows:

ASTM	American Society of Testing and Materials
ANSI	American National Standard Institute
KDOH	Kentucky Department of Highways, "The Standard Specifications for Road and Bridge Construction", Current Edition

A.3 SCOPE

It is the intent that the CONTRACTOR, in accordance with the Plans, Specifications and the Contract Documents, and other mutually acknowledged informational materials shall perform everything required to be performed and to furnish a complete, fully operating work, and shall provide and furnish all labor, materials, necessary tools, expendable and non-expendable equipment and all transportation services required for the entire, proper, substantial completion of the Work, the cost of all of which shall be included in his bid. The CONTRACTOR shall make all requisite excavations and foundation preparation for constructing driveways, sidewalks, incidental drainage

structures, and retaining walls that are disturbed by the project works. The CONTRACTOR shall where required, excavate and prepare subgrade for pavement replacement. The CONTRACTOR shall provide all signs, lighting, barricades, temporary construction fencing, flagmen and watchmen and make provisions necessary to protect and maintain buildings, fences, trees, shrubs, poles, existing utility fixtures, water courses, surface drains, or other structures in, on, across, or adjacent to the work and repair all damage done to them where and as required. The CONTRACTOR shall perform all backfilling, restore walks, grass plots, flowers, shrubs, trees, paved surfaces, etc., damaged or disturbed and clear away all rubbish and surplus materials. The CONTRACTOR shall put in complete and acceptable working order the items covered by the contract.

This Specification sets forth several items of Work or conditions, which are required as integral parts of the successful completion of the Project. All items discussed herein under General Provisions are considered incidental to the overall accomplishment of the Project and no separate payment shall be made therefore unless otherwise noted elsewhere in these specifications.

A.4 CONTRACTOR'S FACILITIES

1.4.1 Sanitary Facilities: The CONTRACTOR shall provide and maintain all necessary sanitary facilities at the site, in accordance with all applicable regulations, and shall properly remove same at completion of the Project.

1.4.2 Utilities: The obtaining of all utilities, which may be required for the construction shall be the responsibility of the CONTRACTOR.

A.5 CONTRACTOR'S FIELD OFFICE

A CONTRACTOR'S Field Office is not required for this project.

A.6 UTILITIES

The CONTRACTOR is cautioned to notify all utility companies prior to beginning construction operations.

It shall be the CONTRACTOR'S responsibility to locate all utilities, make appropriate arrangements regarding relocation, maintain utility service throughout the construction period, and make final relocations at the completion of the Work. The CONTRACTOR shall be responsible for any injury or damage to the existing utilities due to his operations whether shown or not shown in the plans. Where utilities are shown or indicated on the plans, the information given is in accordance with the best information in possession of the OWNER but is approximate only. The data is not warranted to be either complete or correct, and the CONTRACTOR shall assume all risks resulting from the conditions arising from the approximations shown.

The CONTRACTOR shall confer with the utility companies to inform them of the proposed construction schedule, verify the location and elevation of existing utilities and arrange for the relocation and adjustment of any facilities to avoid interference with the proposed construction. All such activities are to be performed under the direction of and with the approval of the ENGINEER.

When the various utility owners find it necessary to make adjustment to their lines where the CONTRACTOR is presently working, the CONTRACTOR is to move his operations to another area of work so as not to interfere in any way with the utility company's work.

Any utilities covered up or lost by the Construction operations of the CONTRACTOR shall be uncovered and found by the CONTRACTOR and the new Construction repaired and/or replaced as directed by the ENGINEER. No additional compensation will be allowed for such work nor shall any additional payment be allowed for the relocation and adjusting of any utility but shall be considered Incidental to other work.

The CONTRACTOR shall make a concerted effort to prevent any disruption of utility services and if an unintended disruption occurs, the Contractor shall immediately and safely restore service. If disruption of any of the utility services covered in this section is unavoidable, it will be the responsibility of the CONTRACTOR to notify affected property owners. The CONTRACTOR shall also make every effort to restore said services before quitting work for the day. In the event this cannot be done, the CONTRACTOR shall provide temporary service to the property owner until permanent services can be restored.

A.7 TESTING

From time to time during the progress of the Work the ENGINEER may require that testing be performed to determine that materials provided meet the specified requirements.

The Lexington-Fayette Urban County Government will select a testing laboratory to perform the testing services. The cost of such services shall be the responsibility of the OWNER if testing reveals defective materials or Work, the cost of said testing will become the responsibility of the CONTRACTOR.

1.7.1 Codes and Standards: Testing, when required, will be in accordance with all pertinent codes and regulations and with selected standards of the American Society for Testing and Materials.

1.7.2 Cooperation with the Testing Laboratory: Representatives of the testing laboratory shall have ready access to the work at all times. The CONTRACTOR shall provide facilities for such access in order that the laboratory may properly perform its functions.

A.8 INSTALLATION REQUIREMENTS

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as suggested by the respective manufacturers, unless otherwise specified herein or directed by the ENGINEER.

A.9 PROOF OF COMPLIANCE

Whenever the Contract Documents require that a product be in accordance with Federal Specifications, ASTM Designations, ANSI Specifications, and other associations' standards, the CONTRACTOR shall present a certification from the manufacturer that the product complies

therewith. When requested or specified, the CONTRACTOR shall submit supporting test data to substantiate compliance.

A.10 DUST CONTROL

The CONTRACTOR shall be responsible for minimizing the generation of dust resulting from his operations at all times. The CONTRACTOR shall be required to maintain all excavations, embankments, stockpiles, roads, permanent access roads, plant sites, waste areas, and all other work areas within or without the project boundaries free from dust, which would cause a hazard or nuisance to others. Approved temporary methods of stabilization consisting of sprinkling, chemical treatment, light bituminous treatment or similar methods will be permitted to control dust. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

A.11 REPAIR OF DAMAGE

Any damage done to structures, fills, roadways, or other areas shall be repaired at the CONTRACTOR'S expense before final payment is made.

A.12 PROJECT EXTENT

The CONTRACTOR shall be responsible for satisfying himself as to the construction limits for the Project. The CONTRACTOR shall not establish Work, storage, or staging area outside the Project Limits, unless otherwise directed or approved by the ENGINEER. The CONTRACTOR may, however, use the LFUCG owned property located on Cabot Avenue for staging and storage purposes. The staging and materials storage area shall be location outside the 100-year floodplain, and all disturbed areas shall be returned to existing conditions at the end of project.

A.13 WORKING HOURS

All Work on this Project shall be restricted to between 8:00 AM and 5:00 PM, except emergency Work or directed by the LFUCG, such as any necessary pumping, which may require 24-hour operation. If the CONTRACTOR elects to work beyond the normal workweek, he shall notify the ENGINEER of his intent as far in advance as possible.

A.14 GUARANTEE

The CONTRACTOR shall assume responsibility for all workmanship and materials for a period of one year from final payment. Any Work found to be defective due to failure to comply with the provision and intent of the Contract Documents shall be replaced at the CONTRACTOR'S expense.

A.15 PROPERTY CONSIDERATION

Materials having a salvage value shall remain the property of the OWNER. Salvageable materials rejected by the OWNER shall become the responsibility of the CONTRACTOR to dispose of in a proper manner subject to the approval of the ENGINEER.

A.16 BLASTING

No blasting allowed.

A.17 HAZARDOUS MATERIAL - GAS LINES

The CONTRACTOR is advised to exercise caution in his operations on this project, whether the plans indicate or do not indicate, the presence of any gas or hazardous material carrying lines.

A.18 DIVERSION OF STORM WATER

Appropriate measures must be taken to sandbag the necessary manholes and to pump drainage around the area under construction. The CONTRACTOR is responsible for developing a plan to divert storm drainage around the construction area with the approval from the ENGINEER. Materials, labor and all incidentals necessary to accomplish this diversion of storm drainage will be considered incidental to the contract.

A.19 SEWER SERVICE MAINTENANCE

This work shall consist of maintaining existing sanitary sewer service to residents in the area during construction. Sewage is to be maintained by whatever means necessary. No surcharge of manholes will be allowed.

Sanitary Sewer lines within the project area are subject to considerable inflow and infiltration of groundwater during or following rain events. CONTRACTOR should consider these periods of heavy flow when devising his sewer service maintenance plan and construction sequencing.

No separate payment will be made for Sewer Service Maintenance. Sewer Service Maintenance shall include all materials, equipment and labor necessary to maintain sewer service to residents during construction.

A.20 PROJECT SIGN

Prior to construction two (2) Project Signs shall be installed at each end of project in accordance with the Standard Drawings. The exact locations shall be established prior to the beginning of the work and shall remain visible during the entire length of the Project. After all Work is complete and prior to final inspection, the signs shall be removed and disposed of properly. The cost and installation of the Project Signs is incidental to the Project.

A.21 EDGE KEY

Where it is necessary to remove existing pavement, the CONTRACTOR will be required to furnish a neat edge along the pavement, obtained by sawing a neat line approximately one inch (1") deep in the surface before breaking the adjacent pavement away.

No direct payment will be made for Edge Key as this is considered incidental to the item for which the pavement removal is required.

SECTION B - MAINTENANCE OF TRAFFIC

B.1 SCOPE

The CONTRACTOR shall maintain all local vehicular and pedestrian traffic within the construction limits of the Rogers Road Area Stormwater Improvements Project during construction. The CONTRACTOR shall present a plan for maintenance of traffic, detours and traffic signs subject to the approval of the Lexington-Fayette Urban County Government Traffic Engineer prior to the beginning of Work. To the extent that it does not conflict with the content of the Plans, Contract Documents, and Specifications, Subsection 104.04 of KDOH Standard Specifications, current edition, is incorporated into this Technical Specification. The CONTRACTOR shall contact and coordinate maintenance of traffic plans with the Principal of Mary Todd Elementary School. The CONTRACTOR shall provide documentation of the coordination to the OWNER.

B.2 MATERIALS

The CONTRACTOR shall furnish bridging plates or provide other means of maintaining safe access for pedestrians and service traffic to all businesses during normal working hours. Adequate personnel shall be available during daylight hours to assure maintenance. Metal trench covers, granular backfill or other suitable methods shall be utilized to maintain vehicular traffic through areas disturbed by construction operations.

B.3 SIGNING

The CONTRACTOR shall furnish and erect suitable barricades, signs and other necessary devices to control, guide and safeguard traffic passing through or around the construction project. All such devices shall conform in all respects to the requirements of the Manual on Uniform Traffic Control Devices for Highway Construction and Maintenance Projects. The CONTRACTOR, before erecting any barricades or changing the location of one already placed, shall notify the ENGINEER at least three days prior to such contemplated erection or change, except in case of an emergency. In case of an emergency, the ENGINEER may direct the CONTRACTOR to immediately provide safety and warning devices to safeguard traffic. All nighttime control devices requiring illumination shall be lighted every night during the entire period from sunset to sunrise. The CONTRACTOR will be held responsible for all damage to Work due to failure to provide barricades, signs, lights, and watchmen to protect it; and whenever evidence of such damage is found prior to acceptance, the ENGINEER may order the damaged portion removed and replaced by the CONTRACTOR at the CONTRACTOR'S expense. The responsibility remains the CONTRACTOR'S until the project is accepted. The LFUCG Road Improvement Signs shall also be included in this item.

B.4 MEASUREMENT AND PAYMENT

Payment will be included in the Maintain and Control Traffic item of the bid and shall be per lump sum.

SECTION C - FINAL CLEANUP

C.1 SCOPE

The Work will not be considered as complete, and final payment will not be made, until the right-of-way and all ground occupied 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 in waste areas provided by the CONTRACTOR. All property, both public and private, which has been damaged in the execution of the Work, shall be replaced or restored in an acceptable manner. All ditches shall be drained and all space shall be left unobstructed and in such condition as acceptable to the ENGINEER.

C.2 PAYMENT

No direct payment will be made for final cleanup.

SECTION 1 - GEOTECHNICAL INVESTIGATION

1.0 DESCRIPTION

- A. Geotechnical investigation and report:
 - 1. Rock soundings along the proposed storm sewer alignment were performed by LE Gregg Associates. This information is included for reference only.
- B. Use of data:
 - 1. The information was obtained only for the Engineer use in design and is not a part of the Contract Documents.
 - 2. The Engineer/Owner takes no responsibility for the conclusions that individual contractors may reach upon review.
 - 3. Bidders should visit the site and acquaint themselves with existing conditions.

1.1 QUALITY ASSURANCE

- A. A geotechnical engineer will be retained by the Contractor to perform such testing of materials and installation as the Owner sees fit.
- B. The Subcontractor shall readjust work performed that does not meet technical or design requirements, but make no deviation from the Contract Documents without specific and written approval from OWNER AND ENGINEER.

SECTION 2 -CONSTRUCTION STAKING

2.0 SCOPE

The CONTRACTOR will furnish and be responsible for all staking, including the initial staking. The CONTRACTOR shall bear the cost of all staking necessary to control and complete the Work according to the specifications to the lines and grades shown on the plans.

The CONTRACTOR'S staking party shall be under the general supervision of a Registered Land Surveyor. It shall be definitely understood that supervision of the resetting of construction staking is solely the responsibility of the CONTRACTOR and any errors or inaccuracies resulting from the operations of the construction staking party shall be corrected at no cost to the OWNER.

It will be the OWNER'S responsibility to make all measurements for determining final quantities to be used for basis of final payment on items of Work.

To the extent that it does not conflict with the content of the Plans and Contract Documents and Specifications, Section 201 of KDOH Standard Specifications, current edition, is incorporated into this technical specification.

2.1 PAYMENT

Payment for Construction Staking shall be by lump sum.

SECTION 3 - CLEARING AND GRUBBING

3.0 SCOPE

This item includes the Clearing & Grubbing in accordance with KYTC Standard Specification 202 of any trees, stumps, brush and bushes, cement concrete and/or wet stone masonry, steps, fences, walls, and structures within the disturbed limits. This includes removal of all pavements that are to be replaced. Also included is the proper removal and disposal of such materials in a manner acceptable to the ENGINEER and in a manner not detrimental to the inhabitants of the area. The CONTRACTOR will be responsible for determining and complying with local ordinances regarding disposal and/or burning of such materials. Trees, shrubbery, fences, retaining walls, and other such items not specifically noted on the plans to be removed or saved in place, or not shown on the plans, but suspected of being within the project construction limits shall not be disturbed until so directed by the ENGINEER. Clearing & Grubbing shall not commence without approval of the ENGINEER.

Work shall not be performed outside the Disturbed Limits or existing vegetation outside these limits shall not be disturbed unless authorized by the ENGINEER.

Also included in this item will be the careful removal and stockpiling for pickup by the OWNER of all street and traffic signs, inlet grates, manhole frames and covers and other such salvageable and reusable items, not intended to be reset on the job.

Where existing shrubs, fences, planter boxes, etc. are to be removed from the public right of way for new construction under this Contract, and the property owner at this site wishes to replace and re-use same on his private property, the CONTRACTOR shall carefully remove and store on the property owner's property for his use after construction is completed. Payment for this work is to be included in the unit bid price for Clearing & Grubbing.

3.1 MEASUREMENT AND PAYMENT

Payment for Clearing & Grubbing will be a Lump Sum bid price which payment will be full compensation for all work required by this section.

SECTION 4 – EXCAVATION AND GRADING

4.0 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions Specification Sections, apply to this Section.
- B. LFUCG Construction Inspection Manual 2005, Chapter 5 “Earthwork Construction”

4.1 SUMMARY

- A. This Section includes all work; labor, machinery, disposal and replacement of unsuitable soil, removal of rock and any materials encountered to plan bottom depth for all earthwork related items. These items shall include, but are not limited to, earthwork procedures for drives, parking lots, pavements, utility trenches, etc. No change in the contract price will be considered for any materials encountered and/or required to be removed, or replaced to achieve the earthwork requirements. The following is a list of the items which are included as a part of this work:
 - 1. Preparing subgrades for, walks, pavements, lawns, and plantings.
 - 2. Subbase course for concrete walks and pavements.
 - 3. Base course for asphalt paving.
 - 4. Subsurface drainage backfill for walls and trenches.
 - 5. Excavating and backfilling trenches for buried mechanical and electrical utilities and pits for buried utility structures.
 - 6. Excavating and backfilling for storm drainage (trench rock excavation is incidental to storm sewer installation.)
 - 7. Placement of topsoil as shown on the plans.
- B. Related Sections include the following:
 - 1. Section "Bid Schedule" for a schedule of unit prices.
 - 2. Section "Clearing and Grubbing" for site stripping, grubbing, removing topsoil, and protecting trees to remain.
 - 3. Section "Landscaping" for finish grading, including placing and preparing topsoil for lawns and plantings.

4.2 DEFINITIONS

- A. Backfill: Soil materials used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.

- B. Base Course: Layer placed between the subbase course and asphalt paving.
- C. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Layer used to minimize capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and subsequent disposal of materials removed.
 - 1. Additional Excavation: Excavation below subgrade elevations as directed by Engineer.
 - 2. Bulk Excavation: Excavations more than 10 feet (3 m) in width and pits more than 20 feet (6 m) in either length or width.
 - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material exceeding 1 cu. yd. (0.76 cu. m) for bulk excavation or 3/4 cu. yd. (0.57 cu. m) for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:
 - 1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch- wide, short-tip-radius rock bucket; rated at not less than 120-hp flywheel power with bucket-curling force of not less than 25,000 lbf and stick-crowd force of not less than 18,700 lbf; measured according to SAE J-1179.
 - 2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp flywheel power and developing a minimum of 45,000-lbf breakout force; measured according to SAE J-732.
- I. Topsoil: ASTM D 5268, pH range of 5.5 to 7, 4 percent organic material minimum, free of stones 1-inch or larger in any dimension, and other extraneous materials harmful to plant growth.
 - 1. Topsoil Source: Reuse surface soil stockpiled on the site. Verify suitability of surface soil to produce a topsoil meeting requirements and amend when necessary. Supplement with imported topsoil when quantities are insufficient. Clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth.

- J. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- K. Subbase Course: Layer placed between the subgrade and base course for asphalt paving, or layer placed between the subgrade and a concrete pavement or walk.
- L. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- M. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

4.3 SUBMITTALS

- A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
 - 1. Classification according to ASTM D 2487 of each on-site or borrow soil material proposed for fill and backfill.
 - 2. Laboratory compaction curve according to ASTM D 698 for each on-site or borrow soil material proposed for fill and backfill.
 - 3. All reports are to be signed by a Professional Engineer with licenses to practice in the Commonwealth of Kentucky.

4.4 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Engineer not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Engineer's written permission.
 - 3. Contact utility-locator service for area where Project is located before excavating.
 - 4. Locate existing underground utilities in areas of excavation work. If utilities are indicated to remain in place, provide adequate means of support and protection during earthwork operations.
 - 5. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to the utility owner's satisfaction at no cost to the Owner.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

4.5 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, GC, SC and SM, or a combination of these group symbols; free of rock or gravel larger than 3 inches (75 mm) in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
 - 1. CL and CH with a dry density above 100, a Liquid Limit less than 50 and a Plastic Index under 35 will also be considered satisfactory.
- C. Unsatisfactory Soils: ASTM D 2487 soil classification groups ML, MH, OL, OH, and PT, or a combination of these group symbols.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
 - 2. CL and CH with a dry density below 100, a Liquid Limit greater than 50 and a Plastic Index greater than 35 will be considered for use only by recommendation by the Geotechnical Engineer. Additional requirements for use of these types of soil may be required.
- D. Backfill and Fill: Satisfactory soil materials. Shot rock may be used on site as long as it is done in a manner that complies with the Rock Excavation Notes.
- E. Subbase: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (38-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- F. Base: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch (38-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.
- G. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (38-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- H. Bedding: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

- I. Drainage Fill: Washed, narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2- inch (38-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve.
- J. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch (25-mm) sieve and 0 to 5 percent passing a No. 4 (4.75-mm) sieve.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

4.6 ACCESSORIES

- A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.
- B. Drainage Fabric: Nonwoven geotextile, specifically manufactured as a drainage geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:
 - 1. Grab Tensile Strength: 110 lbf (490 N); ASTM D 4632.
 - 2. Tear Strength: 40 lbf (178 N); ASTM D 4533.
 - 3. Puncture Resistance: 50 lbf (222 N); ASTM D 4833.
 - 4. Water Flow Rate: 150 gpm per sq. ft. (100 L/s per sq. m); ASTM D 4491.
 - 5. Apparent Opening Size: No. 50 (0.3 mm); ASTM D 4751.
- C. Separation Fabric: Woven geotextile, specifically manufactured for use as a separation geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:
 - 1. Grab Tensile Strength: 200 lbf (890 N); ASTM D 4632.
 - 2. Tear Strength: 75 lbf (333 N); ASTM D 4533.
 - 3. Puncture Resistance: 90 lbf (400 N); ASTM D 4833.
 - 4. Water Flow Rate: 4 gpm per sq. ft. (2.7 L/s per sq. m); ASTM D 4491.
 - 5. Apparent Opening Size: No. 30 (0.6 mm); ASTM D 4751.

4.7 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

4.8 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 - 2. Pumps and other dewatering devices must utilize filters sufficient to remove silts and solids from water prior before sending it to the storm sewer system.

4.9 EXPLOSIVES

- A. Explosives: shall not be permitted.

4.10 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavation regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials. Geotechnical information is provided, however the Contractor may conduct additional tests to alleviate anticipated unknowns at his desire and expense.

4.11 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
 - 2. Excavation for Drainage Structures, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended for bearing surface.

4.12 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated plans, elevations, and grades.

4.13 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
 - 1. Clearance: 12 inches on each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - 1. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 - 2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.
 - 3. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

4.14 APPROVAL OF SUBGRADE

- A. Notify Engineer when excavations have reached required subgrade.

- B. If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades.
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer.

4.15 STONE BRIDGING

- A. Scope. Where soft, undesirable soil material is encountered at or below the desired subgrade elevation, undesirable material will be removed and/or bridged using #2 stone to develop a sufficient platform to support compaction of DGA. The depth and extent of the Work shall be determined based on conditions observed and performance of compaction equipment on subgrade. Work shall be as directed by the ENGINEER.
- B. Requirements. Undesirable soil material shall be removed and disposed of by the CONTRACTOR. The #2 stone shall meet the requirements of KDOH Section 805. Stone will be dumped or shoved into place and walked-in until support is developed for heavy equipment. The ultimate test will be ability to provide an adequate compaction platform for the DGA base.
- C. Measurement and Payment. No direct measurements of stone bridging will be made. Payment for STONE BRIDGING will be based on weight tickets for #2 stone delivered and accepted for the Work. Payment will be at the bid unit price per ton for STONE BRIDGING, which shall be payment for all material, labor, plant, incidentals and operating costs necessary to construct and maintain STONE BRIDGING. Excavation, proof testing, and disposal of excavated material are incidental to STONE BRIDGING and will be included in the payment for STONE BRIDGING.

4.16 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill may be used when approved by Engineer.
 - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Engineer.

4.17 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

4.18 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 1. Surveying locations of underground utilities for record documents.
 2. Inspecting and testing underground utilities.
 3. Removing concrete formwork.
 4. Removing trash and debris.
 5. Removing temporary shoring and bracing, and sheeting.
 6. Installing permanent or temporary horizontal bracing on horizontally supported walls.

4.19 UTILITY TRENCH BACKFILL

- A. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- B. Backfill trenches excavated under footings and within 18 inches of bottom of footings; fill with concrete to elevation of bottom of footings.
- C. Provide 4-inch thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase.
- D. Place and compact initial backfill of subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit.
 1. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.
- E. Coordinate backfilling with utilities testing.
- F. Place and compact final backfill of satisfactory soil material to final subgrade.
- G. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

4.20 FILL

- A. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills.
- B. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- C. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use engineered fill.
 - 3. Under steps and ramps, use engineered fill.
 - 4. Under building slabs, use engineered fill.
 - 5. Under footings and foundations, use engineered fill.

4.21 MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

4.22 COMPACTION OF BACKFILLS AND FILLS

- A. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil to not less than the following percentages of maximum dry unit weight according to ASTM D 698:
 - 1. Under structures, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill material at 98 percent. The moisture content shall be maintained between minus 3 and plus 1 percent of the optimal moisture.
 - 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 95 percent. The moisture content shall be maintained between minus 3 and plus 1 percent of the optimal moisture.

3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 85 percent.

4.23 GRADING

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 1. Lawn or Unpaved Areas: Plus or minus 1 inch.
 2. Walks: Plus or minus 1 inch.
 3. Pavements: Plus or minus 1/2 inch.

4.24 SUBSURFACE DRAINAGE

- A. Subsurface Drain: Place a layer of drainage fabric around perimeter of drainage trench as indicated. Place a 6-inch course of filter material on drainage fabric to support drainage pipe. Encase drainage pipe in a minimum of 12 inches of filter material and wrap in drainage fabric, overlapping sides and ends at least 6 inches.
 1. Compact each course of filter material to 98 percent of maximum dry unit weight according to ASTM D 698.
- B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade. Overlay drainage backfill with one layer of drainage fabric, overlapping sides and ends at least 6 inches.
 1. Compact each course of filter material to 98 percent of maximum dry density according to ASTM D 698.
 2. Place and compact impervious fill material over drainage backfill to final subgrade.

4.25 SUBBASE AND BASE COURSES

- A. Under pavements and walks, place subbase course on prepared subgrade and as follows:
 1. Place base course material over subbase.

2. Compact subbase and base courses at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557. The moisture content shall be maintained between minus 3 and plus 1 percent of the optimal moisture.
3. Shape subbase and base to required crown elevations and cross-slope grades.
4. When thickness of compacted subbase or base course is 6 inches or less, place materials in a single layer.
5. When thickness of compacted subbase or base course exceeds 6 inches, place materials in equal layers, with no layer more than 6 inches thick or less than 3 inches thick when compacted.

4.26 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
 1. Paved Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area, but in no case fewer than three tests.
 2. Trench Backfill: At each compacted initial and final backfill layer, at least one test for each 150 feet or less of trench length, but no fewer than two tests.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

4.27 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.

- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

4.28 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Transport surplus satisfactory soil off the Owner's property.

SECTION 5 –STORM SEWERS

5.0 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. LFUCG Construction Inspection Manual 2005, Chapter 6 “Open Trench Construction”.
- C. KYTC Specification Section 701 “Culvert Pipe, Entrance Pipe, Storm Sewer Pipe, and Equivalents”
- D. Section 16 – “Internal Inspection of Storm and Sanitary Sewer Pipe: CCTV”

5.1 DESCRIPTION

This work shall consist of furnishing and installing circular, box and elliptical pipe for culverts, or storm drains. All units shall conform to the dimensions, fabrication, material, and strength requirements for the type, class, size, and shape in accordance with the plans and these specifications. Throughout this Section, the requirements for the word “pipe” shall also be construed to include “box culvert”. Units shall be bedded and backfilled in accordance with applicable provisions included herein and shall be constructed to the lines and grades shown or established. All storm sewer structures shall be furnished and installed in accordance with the construction plans and specifications and the LFUCG standard drawings.

5.2 MATERIALS FOR STORM DRAINS

The following type of pipe may be specified for use as storm drains and shall meet the requirements of the following KDOH Sections

Concrete Box Culverts	610.02
Precast Reinforced Concrete Box Culverts	611.02
Reinforced Concrete Pipe	810.02.01, A-E
HDPE Pipe	810.06.05, A and B

Other materials proposed as alternates must be approved for use by the ENGINEER and the LFUCG Division of Engineering. The CONTRACTOR shall be responsible for obtaining the approval.

5.3 OTHER MATERIALS

Materials for headwalls or joints shall meet requirements of the following KDOH Sections.

Concrete, Class	601
Steel Reinforcement	602

Storm Sewer Pipe	701
Cement	801
Mortar	601.06
Bituminous Mastic Joint Sealing Compound	807.02.04, A
Rubber Gaskets	807.02.04, B
Flexible Plastic Gaskets	807.02.04, C.

Pipe bedding shall meet the requirements of LFUCG standard drawings and specifications.

5.4 GENERAL

No unit shall be laid until the proposed location has been approved by the ENGINEER. When plans show the top of a unit positioned less than 2 feet below subgrade elevation, the ENGINEER may lower the pipe to obtain 2 or more feet of cover over the pipe when feasible. Soundings for foundation design shall be taken by the CONTRACTOR at the inlet and outlet of each culvert and at intervals no greater than 20 feet along the grade line of the bottom of the pipe, and to depths of 1/2 inch per foot of embankment height over the top of the pipe or one foot, whichever is greater. The maximum depth to which these soundings must be taken is 0.75 Hc, where Hc is the outside to outside vertical height of the pipe. In the event 0.75 Hc is less than 12 inches, sounding shall be taken to a depth of 12 inches. Where ledge rock, gravel, hardpan; or other unyielding material is encountered or known to exist within the limits stated, the foundation shall be prepared in accordance with the plans. The pipe shall be cambered when specified and bedded as specified.

When an unstable foundation is encountered at the grade established, the unstable material shall be removed and replaced with a suitable material to a width and depth and in a manner that will provide a uniform and firm foundation.

In all operations such as placing the pipe, jointing, bedding, backfilling, and embankment construction care shall be exercised; and it shall be the CONTRACTOR'S responsibility to see that pipes are not damaged during unloading or placement on the bed, during compaction of the backfill, by movement of excessively heavy equipment over the fill, or by any other forces that may cause damage. Any pipe, which is not in true alignment and grade or which shows undue settlement after laying, or is otherwise damaged, shall be removed and replaced without extra compensation.

5.5 BEDDING AND BACKFILLING

The method for bedding and backfilling shall be in accordance with the standard details shown on the LFUCG Standard Drawings. Backfill material shall be satisfactory to the ENGINEER, and shall be compacted to the same density as that required for embankment on the project. The pipe shall be cambered when designated on the plans or by the ENGINEER.

5.6 LAYING RIGID PIPE

Rigid pipe shall be placed beginning at the outlet end of the culvert with the bell or groove end being laid upgrade. Successive spigot ends shall extend fully into each adjoining hub. Pipe having marks designating top and/or bottom shall be laid so the designating mark is no more than 5 degrees from the vertical plane throughout the longitudinal axis of the pipe. Any lift holes shall be covered after the pipe has been installed by: 1) coating areas at least 8 inches wider than the holes on the outside of the pipe with a bituminous mastic, 2) placing a piece of sheet metal at least 4 inches wider than the holes over each hole, and 3) applying an additional coating of mastic over the entire area of previously applied metal. Precast lift holes plugs may be used in lieu of the mastic and sheet metal.

Joints for rigid pipe shall be made with any of the following: (a) mortar; (b) bituminous mastic joint sealing compound; (c) flexible plastic gaskets; (d) rubber gaskets; or (e) a combination of these materials unless one type is specified, except that only one type of jointing material shall be used throughout any single structure.

- A. **MORTAR JOINTS.** The mixture shall be one part Portland cement and 2 parts sand. The quantity of water in the mixture shall be sufficient to produce a stiff, workable mortar, but shall not exceed 5-1/2 gallons of water per sack of cement. The ends of the pipe shall be thoroughly cleaned and wetted before joints are made. Stiff mortar shall then be placed in the lower half of the bell or groove section, which has been laid. Mortar shall then be applied to the upper half of the spigot or tongue of the pipe being laid. The spigot or tongue shall then be inserted in the bell or groove of the pipe already laid, the joint being pulled tight, with care being taken to see that inner surfaces of the abutting sections are flush and even. After a section of pipe is laid, and before the succeeding section is laid, the lower portion of the hub of the preceding section shall be plastered thoroughly on the inside with mortar to such a depth to ensure a smooth joint between the abutting sections. The remainder of the joint shall then be filled flush with mortar. The inside of the joint shall then be finished and wiped smooth around the full circumference. After the initial set, the mortar shall be protected from air and sun with a thoroughly wetted earth or burlap cover.
- B. **BITUMINOUS MASTIC JOINTS.** The bituminous mastic jointing compound shall be applied to the ends of the pipe sections on the site immediately prior to placement and in the same manner as in the use of mortar except that jointing surfaces shall be precoated or primed with a primer recommended by the manufacturer or with an approved emulsified asphalt. A slight excess of the sealer shall be applied so when the joints are completely meshed, a bead of the sealer compound will be extended from the joint on the inside and outside of the pipe. The excess material shall then be removed so as to form a smooth, flush joint.
- C. **FLEXIBLE PLASTIC GASKETS.** The primer, rate and method of primer application, width and method of application of the flexible plastic gaskets shall all be in accordance with recommendations of the manufacturer of the flexible plastic gaskets. The CONTRACTOR shall provide the ENGINEER with the manufacturer's literature, which describes installation procedures.

- D. RUBBER GASKETS. In addition to the material requirements of the applicable Section references under paragraph 2 or 3, joints of the sections to be joined shall be of a design and manufactured in accordance with the applicable requirements of AASHTO M 198. The cement and lubricant used to facilitate joining the conduit shall be that recommended by the manufacturer of the rubber gaskets. The rubber gaskets shall be installed in such a manner to snugly fit the beveled surface of the tongue and groove ends of the section so as to form a flexible water-tight seal under all conditions of service.

5.7 EXTENSIONS TO EXISTING PIPE CULVERTS

All pertinent requirements in the foregoing paragraphs shall apply to the extensions of existing pipe culverts. The extensions shall conform to the lines and grades as established and to the dimensions shown.

The portions of the existing structure designated to be removed shall be removed in such a manner to provide a neat junction with the extension and leave undamaged that portion of the existing structure to remain in service. Any damage to the portion remaining in service shall be repaired by the CONTRACTOR at his expense. All silt or other debris that may have collected within the barrel of the existing structure shall be removed and disposed of by the CONTRACTOR, payment for which shall be incidental to the work.

5.8 METHOD OF MEASUREMENT

Pipe will be measured in linear feet for each type, class, and size complete and accepted in the final work. The number of linear feet for each type, class, and size of pipe will be determined by multiplying the actual net laying length of the units or sections by the number of full units or sections laid as directed. Joint materials required for jointing sections will not be measured for payment. Bends, elbows, crosses, tees, reducers, laterals, wyes, and other shapes will be measured in linear feet along the central axis of the pipe to the end of the main member of the join and from the end of each branch member of the joint to the outside wall of the main member. Concrete and steel reinforcement complete and in place in accepted headwalls will be measured as specified in KDOH Sections 601.28 and 602.10, respectively. Material removed from unstable foundations will be measured in cubic yards, up to a maximum width of 3 times the outside diameter of the pipe or the outside diameter of the pipe plus 4 feet, whichever is least. Unstable material removed outside these limits will be measured and paid for as roadway excavation or embankment-in-place, as applicable; unstable material removed within these limits and below the normal bedding excavation will be measured as Pipe Undercut.

All excavation required for construction of pipe, except excavation of unstable material from the foundation, will be considered incidental and no consideration will be given to any increase or decrease in the volume of excavation required or directed by the ENGINEER unless there is a material increase in the excavation required for a particular size or sizes of the pipe due to changes by the ENGINEER in lengths or locations. A material increase in the excavation is defined as an increase of more than 10 percent over the original average

excavation per linear foot, which would have been installed exactly as depicted on the plans. Excavation of unstable material from the foundation will not be considered in determining the percentage of a material increase in excavation. Only when the CONTRACTOR can verify, prior to performing the excavation, that a substantial increase in excavation will be required for a size or sizes of the additional pipe will any measurement be made by the ENGINEER to determine the extent of the increase in excavation. After the volume of excavation required for a size of the additional pipe has been determined, only that portion of the excavation that is in excess of 10 percent over the average original excavation per linear foot for that size will be eligible for payment. The excess volume eligible for payment will be measured in cubic yards as Roadway Excavation Unclassified.

Trench rock excavation shall be measured in cubic yards based on a trench width of the pipe outside diameter plus two feet. The depth of trench rock shall be an average of fifty foot stations as measured in the field to a depth of six inches below the pipe grade. Additional stone backfill in rock excavations will not be measured for payment.

5.9 STORM SEWER STRUCTURES

- A. Precast Concrete Catch Basins and Manholes: ASTM C 478 (ASTM C 478M), precast, reinforced concrete, of depth shape and dimensions indicated, with provision for rubber gasketed joints, and as required by authorities having jurisdiction.
- B. Cast-in-Place Concrete, Catch Basins and Manholes: Construct of reinforced concrete; designed according to ASTM C 890 for structural loading; of depth, shape, dimensions, and appurtenances indicated.
 - 1. Bottom, Walls, and Top: Reinforced concrete.
 - 2. Channels and Benches: Concrete.
- C. Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for heavy-duty service, unless otherwise shown on the drawings. Include flat grate with small square or short-slotted drainage openings.

5.10 CONCRETE

- A. General: Cast-in-place concrete according to ACI 318, ACI 350R, and the following:
 - 1. Cement: ASTM C 150, Type II.
 - 2. Fine Aggregate: ASTM C 33, sand.
 - 3. Coarse Aggregate: ASTM C 33, crushed gravel.
 - 4. Water: Potable.
- B. Portland Cement Design Mix: 4000 psi (27.6 MPa) minimum, with 0.45 maximum water-cementitious ratio.

1. Reinforcement Fabric: ASTM A 185, steel, welded wire fabric, plain.
2. Reinforcement Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed steel.

5.11 PIPE OUTLETS

- A. Head Walls: Cast-in-place or precast reinforced concrete, with apron (as shown on the drawings.)

5.12 MANHOLE INSTALLATION

- A. General: Install manholes, complete with appurtenances and accessories indicated.
- B. Form continuous concrete channels and benches between inlets and outlet.
- C. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere, unless otherwise indicated.
- D. Install precast concrete manhole sections with gaskets according to ASTM C 891.
- E. Construct cast-in-place manholes as indicated.
- F. Install fiberglass manholes according to manufacturer's written instructions.

5.13 CATCH-BASIN INSTALLATION

- A. Construct catch basins to sizes and shapes indicated.
- B. Set frames and grates to elevations indicated.

5.14 STORM DRAINAGE INLET AND OUTLET INSTALLATION

- A. Construct inlet head walls, aprons, and sides of reinforced concrete, as indicated.
- B. Construct riprap of broken stone, as indicated.
- C. Install outlets that spill onto grade, anchored with concrete, where indicated.
- D. Install outlets that spill onto grade, with flared end sections that match pipe, where indicated.
- E. Construct energy dissipators at outlets, as indicated.

5.15 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318 and ACI 350R.

5.16 TAP CONNECTIONS

- A. Make connections to existing piping and underground structures so finished Work complies as nearly as practical with requirements specified for new Work.
- B. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
- C. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
- D. Make branch connections from side into existing piping, NPS 21 or larger, or to underground structures by cutting opening into existing unit large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall, unless otherwise indicated. On outside of pipe or structure wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.
 - 1. Use concrete that will attain minimum 28-day compressive strength of 3000 psi, unless otherwise indicated.
 - 2. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.
- E. Protect existing piping and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

5.17 CLOSING ABANDONED STORM DRAINAGE SYSTEMS

- A. Abandoned Piping: Close open ends of abandoned underground piping indicated to cap and safe load. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below:
 - 1. Close open ends of piping with at least 8-inch- thick, brick masonry bulkheads.
 - 2. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.

- B. Abandoned Structures: Excavate around structure as required and use one procedure below:
 - 1. Remove structure and close open ends of remaining piping.
 - 2. Remove top of structure down to at least 36 inches below final grade. Fill to within 12 inches of top with stone, rubble, gravel, or compacted dirt. Fill to top with concrete.
 - 3. Backfill to grade according to Section "Earthwork."

5.18 FIELD QUALITY CONTROL

- A. Clear interior of piping and structures of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed.
 - 1. In large, accessible piping, brushes and brooms may be used for cleaning.
 - 2. Place plug in end of incomplete piping at end of day and when work stops.
 - 3. Flush piping between manholes and other structures to remove collected debris, if required by authorities having jurisdiction.
- B. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
 - 1. Submit separate reports for each system inspection.
 - 2. Defects requiring correction include the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
 - 3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
 - 4. Reinspect and repeat procedure until results are satisfactory.
- C. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
 - 1. Do not enclose, cover, or put into service before inspection and approval.
 - 2. Test completed piping systems according to authorities having jurisdiction.
 - 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours advance notice.
 - 4. Submit separate reports for each test.

5.19 BASIS OF PAYMENT

The accepted quantities of each type, class, and size of pipe will be paid for at the contract unit price per linear foot. Payment for pipe bends, elbows, crosses, tees, reducers, laterals, wyes, and other shapes of joints will be made at the contract price per linear foot of pipe for the largest diameter pipe included in the joint. That price will include all necessary excavation and bedding except excavation of unstable material from the foundation; backfilling; and furnishing and installing the pipe. The unit price for headwalls will include payment for any excavation necessary for installation, concrete and steel reinforcement of each unit.

No payment will be made for excavation or backfill in excess of the limits described in these specifications that may be necessary to achieve safe working conditions.

Payment will be made under:

PAY ITEM	PAY UNIT
Pipe, Size	Linear Foot
Concrete Box Culvert	Linear Foot
Trench Rock	Incidental to Pipe
Pipe Excavation	Incidental to Pipe
Stone Bridging	Ton
Storm Sewer Structure	Each
Trench Cap	CY

SECTION 6 - DENSE GRADED AGGREGATE BASE

6.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. LFUCG Construction Inspection Manual 2005, Chapter 10 “Bituminous Pavement Construction”.
- C. KYTC Specification Section 302 “Dense Graded Aggregate Base and Crushed Stone Base”

6.2 DESCRIPTION

The DGA base course shall be constructed as part of the utility cap replacement where the storm sewer trench is under pavement. This base course shall consist of graded aggregate and water mixed with or without an admixture, placed according to LFUCG standard trench in pavement detail, and shaped and compacted to the line, grades, and cross sections shown on the plans.

6.3 MATERIALS

Materials shall meet the requirements specified in the following KDOH sections.

Aggregate	805
Calcium Chloride	825

Water used in the mixture will be subject to approval by the ENGINEER on the project.

When approved by the ENGINEER, the aggregate may be produced by blending 2 or more aggregate sizes. When blending is permitted, the separate aggregate sizes shall be fed uniformly into the mixer and a synchronized proportioning system between the separate feeders shall be provided.

6.4 GENERAL

All roads in Fayette County shall be constructed in accordance with the following sections of the Kentucky Transportation Cabinet’s (KYTC) Standard Specifications for Road and Bridge Construction. Items not covered by the KYTC specifications shall require a special design by the Engineer and shall be approved by the Lexington Fayette Urban County Government (LFUCG) Division of Engineering.

Embankment – Division 200

Excavation – Division 200

Subgrade – Division 200

Dense Graded Aggregate – Division 300

Bituminous Concrete – Division 400

Concrete Paving - Division 500

Chemical Stabilization - Division 200

The granular base course shall consist of compacted dense-graded aggregate (DGA) meeting the requirements set forth in Kentucky Transportation Cabinet's (KYTC) 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 meet the requirements referenced above.

The DGA shall be applied in thickness 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 the DGA placement shall be conducted. 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 density of 140 pounds per cubic foot with a moisture content of between 3% and 5%.

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.

It is intended that the dense-graded aggregate base course shall be completely covered with the specified pavement courses before the work is suspended for the winter months. The CONTRACTOR shall make every reasonable effort to accomplish this objective. When the dense-graded aggregate base course is not completely covered with the specified pavement courses, the ENGINEER will then determine the extent of any further work necessary to protect and maintain the uncompleted work during the winter months and until the beginning of spring paving operations. When extra materials, methods, and construction techniques, -not a part of the specified construction, are determined to be necessary to protect, maintain, and repair any portion of the uncompleted work, the cost of such extra materials, methods, and techniques shall be borne by the CONTRACTOR.

6.5 MIXING

The dense-graded aggregate and the water shall be thoroughly mixed in a twin shaft pugmill type mixer, unless another type of mixer is approved. The amount of water added to the aggregate shall be approved and shall be an amount, which will provide the mixture with a satisfactory moisture content for compaction to the specified in-place density. The rate of flow of the water to the pugmill shall be controlled by valves or other devices, which can be easily reset when a change in the rate of flow is desirable. The water supply system shall be equipped with a positive cut-off

control, which will stop the flow of water simultaneously with any stoppage in the flow of aggregate in the pugmill.

6.6 TRANSPORTING

The plant-mixed material shall be transported in such manner as to deliver the mix to the project without loss or segregation. Each truckload shall be covered with a heavy canvas sheet to reduce the loss of moisture in transit whenever the time between loading the truck and spreading the mixture exceeds 30 minutes.

6.7 PLACING AND SPREADING

The mixture shall be placed and shaped, by power equipment, to the specified lines, grades, cross sections, and depths, without segregation.

Placing, spreading, shaping, and compacting shall be continuous as practicable during each day's run. The base shall be wetted as directed during shaping and compaction operations to maintain the moisture content at the level necessary to ensure proper compaction.

Unless otherwise provided or permitted, the compacted depth of each layer shall be no less than 3 inches nor more than 6-1/2 inches.

Before placing the base material, the sub grade or previous base layer shall be wetted as directed.

6.8 COMPACTING

Each layer of base material, after being shaped to the required lines and cross section, shall be compacted to a density of no less than 84 percent of solid volume throughout the layer. The density determination will be based on the oven-dry, bulk specific gravity KM 64-607.

When the total compacted thickness of the base is 4 inches or less, acceptability of compaction will be determined either by nuclear gages or by visual inspection, at the option of ENGINEER; in all other cases in-place density will be determined by nuclear gages or by KM 64-512. When compaction of base 4 inches or less in thickness is accepted by visual inspection, no reduction of compactive effort is intended.

Manually operated mechanical tampers shall be used in areas inaccessible to power equipment.

Initial layers of base shall be maintained to a uniform grade and cross section during compaction. The final layer shall be shaped, with additional material added when necessary, so that the completed base is true to the required lines, grades, and cross sections.

6.9 MAINTENANCE AND PROTECTION

Traffic on the completed base should be held to the minimum necessary to complete the work and/or maintain public traffic. Any damage such as raveling or areas that lose density shall be

repaired as directed before covering with base or surface courses. Areas subject to traffic shall be moistened as directed, to avoid the loss fine materials, and the surface of these re-checked for grade and cross section and necessary corrections made as directed, before base or surface courses are constructed. At the CONTRACTOR'S option, dilute emulsified asphalt may be used for dust control, at the CONTRACTOR'S expense.

6.10 SURFACE TOLERANCES

The surface of the top course of the base shall be smooth and uniform and shall not deviate more than 1/2 inch from the specified cross section at any point and shall not deviate from the specified longitudinal grade more than 3/8 inch in 10 feet at any location. When final grading is to be performed by an automatic grading machine, the base shall be trimmed to such accuracy that the succeeding base and/or surface courses will meet their respective specified surface and thickness tolerances.

The CONTRACTOR shall furnish all devices necessary to check the surface, such as stringlines, straightedges, etc., and the labor necessary to handle the devices.

6.11 METHOD OF MEASUREMENT

Water used to moisten the sub grade prior to placing base, in mixing the base material, and to maintain moisture during compaction and maintenance of the base will not be measured for separate payment, but will be considered incidental to DGA Base.

6.12 BASIS OF PAYMENT

The accepted quantities thus measured will be paid for at the contract unit prices, which payment shall be full compensation for all work required by this Section.

Payment will be made under:

PAY ITEM	PAY UNIT
DGA Base	Ton

SECTION 7 - ASPHALT PAVING

7.0 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

7.1 SUMMARY

- A. This Section includes the following:
 - 1. Hot-mix asphalt paving.
 - 2. Hot-mix asphalt patching.
 - 3. Hot-mix asphalt overlays.
 - 4. Pavement-marking paint.
- B. Related Sections include the following:
 - 1. Section "Earthwork" for aggregate subbase and base courses and aggregate pavement shoulders.

7.2 SYSTEM DESCRIPTION

- A. Provide asphalt pavement according to the materials, workmanship, and other applicable requirements of the standard specifications of the state or of authorities having jurisdiction.
 - 1. Standard Specification: Kentucky Transportation Cabinet Standard Specifications For Highways and Bridges (KTC.)

7.3 SUBMITTALS

- A. **Job-Mix Designs:** Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.
- B. **Material Certificates:** Certificates signed by manufacturers certifying that each material complies with requirements.

7.4 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Engage a firm experienced in manufacturing hot-mix asphalt similar to that indicated for this Project and with a record of successful in-service performance.

1. Firm shall be a registered and approved paving mix manufacturer with authorities having jurisdiction or with the KTC.
- C. **Regulatory Requirements:** Conform to applicable standards of authorities having jurisdiction for asphalt paving work on public property.
- D. **Asphalt-Paving Publication:** Comply with AI's "The Asphalt Handbook," except where more stringent requirements are indicated.

DELIVERY, STORAGE, AND HANDLING

- A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
- B. Store pavement-marking materials in a clean, dry, protected location and within temperature range required by manufacturer. Protect stored materials from direct sunlight.

7.5 PROJECT CONDITIONS

- A. **Environmental Limitations:** Do not apply asphalt materials if substrate is wet or excessively damp or if the following conditions are not met:
1. **Prime and Tack Coats:** Minimum surface temperature of 60 deg F.
 2. **Asphalt Base Course:** Minimum surface temperature of 40 deg F and rising at time of placement.
 3. **Asphalt Surface Course:** Minimum surface temperature of 60 deg F at time of placement.
- B. **Pavement-Marking Paint:** Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials, 50 deg F for water-based materials, and not exceeding 95 deg F.

7.6 AGGREGATES

- A. **General:** Use materials and gradations that have performed satisfactorily in previous installations.
- B. **Coarse Aggregate:** Sound; angular crushed stone; or crushed gravel; complying with KTC Section 805.
- C. **Fine Aggregate:** Sharp-edged natural sand or sand prepared from stone; gravel, or combinations thereof; complying with KTC Section 804.
1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.

7.7 ASPHALT MATERIALS

- A. **Asphalt Cement:** Bituminous Asphalt Binder conforming to KTC Section 806.
- B. **Prime Coat:** Asphalt emulsion prime conforming to KTC Section 806.
- C. **Tack Coat:** Asphalt Tack Coat conforming to KTC Section 806.
- D. **Water:** Potable.

7.8 AUXILIARY MATERIALS

- A. **Pavement-Marking Paint:** Alkyd-resin type, ready-mixed, complying with FS TT-P-115, Type I, or AASHTO M-248, Type N.
- B. **Glass Beads:** AASHTO M-247.

7.9 MIXES

- A. **Asphalt:** Provide dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction; designed according to procedures in AI's "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types"; and complying with the following requirements:
 - 1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
 - 2. **Base Course:** Thickness as shown on the drawings.
 - 3. **Surface Course:** Thickness as shown on the drawings.

7.10 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.
- C. Notify Engineer in writing of any unsatisfactory conditions. Do not begin paving installation until these conditions have been satisfactorily corrected.

7.11 COLD MILLING

- A. Clean existing paving surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement, including hot-mix asphalt and, as necessary, unbound-aggregate base course, by cold milling to grades and cross sections indicated.

1. Repair or replace curbs, manholes, and other construction damaged during cold milling.

7.12 PATCHING AND REPAIRS

- A. **Patching:** Saw cut perimeter of patch and excavate existing pavement section to sound base. Recompact new subgrade. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically.
 1. Tack coat faces of excavation and allow to cure before paving.
 2. Fill excavation with dense-graded, hot-mix asphalt base mix and, while still hot, compact flush with adjacent surface.
 3. Partially fill excavation with dense-graded, hot-mix asphalt base mix and compact while still hot. Cover asphalt base course with compacted, hot-mix surface layer finished flush with adjacent surfaces.
- B. **Leveling Course:** Install and compact leveling course consisting of dense-graded, hot-mix asphalt surface course to level sags and fill depressions deeper than 1 inch in existing pavements.
 1. Install leveling wedges in compacted lifts not exceeding 3 inches thick.
- C. **Crack and Joint Filling:** Remove existing filler material from cracks or joints to a depth of 1/4 inch. Refill with asphalt joint-filling material to restore watertight condition. Remove excess filler that has accumulated near cracks or joints.
- D. **Tack Coat:** Apply uniformly to existing surfaces of previously constructed asphalt or portland cement concrete paving and to surfaces abutting or projecting into new, hot-mix asphalt pavement. Apply at a uniform rate of 0.05 to 0.15 gal./sq. yd. of surface.
 1. Allow tack coat to cure undisturbed before paving.
 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

7.13 SURFACE PREPARATION

- A. **General:** Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
 1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

- B. **Prime Coat:** Apply uniformly over surface of compacted-aggregate base at a rate of 0.50 gal./sq. yd.. Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure for 72 hours minimum.
1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use just enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
 2. Protect primed substrate from damage until ready to receive paving.

7.14 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt mix on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness, when compacted.
1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
 2. Spread mix at minimum temperature of 250 deg F.
 3. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
 4. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet wide, except where infill edge strips of a lesser width are required.
1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete asphalt base course for a section before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

7.15 JOINTS

- A. Construct joints to ensure continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.
1. Clean contact surfaces and apply tack coat.
 2. Offset longitudinal joints in successive courses a minimum of 6 inches.
 3. Offset transverse joints in successive courses a minimum of 24 inches.
 4. Construct transverse joints by bulkhead method or sawed vertical face method as described in AI's "The Asphalt Handbook."

5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.

7.16 **COMPACTION**

- A. **General:** Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
 1. Complete compaction before mix temperature cools to 185 deg F.
- B. **Breakdown Rolling:** Accomplish breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Repair surfaces by loosening displaced material, filling with hot-mix asphalt, and rerolling to required elevations.
- C. **Intermediate Rolling:** Begin intermediate rolling immediately after breakdown rolling, while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 1. **Average Density:** 96 percent of reference laboratory density according to ASTM D 1559, but not less than 94 percent nor greater than 100 percent.
- D. **Finish Rolling:** Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. **Edge Shaping:** While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
- F. **Repairs:** Remove paved areas that are defective or contaminated with foreign materials. Remove paving course over area affected and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. **Protection:** After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

7.17 **INSTALLATION TOLERANCES**

- A. **Thickness:** Compact each course to produce the thickness indicated within the following tolerances:

1. **Base Course:** Plus or minus 1/2 inch.
 2. **Surface Course:** Plus 1/4 inch, no minus.
- B. **Surface Smoothness:** Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
1. **Base Course:** 1/4 inch.
 2. **Surface Course:** 1/8 inch.
 3. **Crowned Surfaces:** Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

7.18 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with the Engineer.
- B. Allow paving to cure for 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
 1. Broadcast glass spheres uniformly into wet pavement markings at a rate of 6 lb/gal..

7.19 FIELD QUALITY CONTROL

- A. **Testing Agency:** The Owner will engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports.
 1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.
- B. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- C. **Thickness:** In-place compacted thickness of asphalt courses will be determined according to ASTM D 3549.
- D. **Surface Smoothness:** Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- E. Remove and replace or install additional asphalt where test results or measurements indicate that it does not comply with specified requirements.

7.20 BASIS OF PAYMENT

Accepted quantities for Asphalt Paving will be paid for at the Contract Unit Price as quoted (which shall be full compensation for all Work required under this Section) and paid per Ton of Asphalt Paving satisfactorily placed. All labor, materials (other than the Asphalt Paving), equipment, and excavation shall be incidental to the placement of the Asphalt Paving.

Application of tack coat as directed by the Inspector shall be incidental to this Contract and no direct payment shall be made.

SECTION 8 - BITUMINOUS PAVEMENT MILLING AND TEXTURING

8.0 SCOPE

Work for this Section shall conform to the Kentucky Department of Highways Standard Specifications, Section 408, current edition and shall include all labor, materials, equipment, incidentals necessary to complete Work, including disposal of all resultant cuttings.

8.1 BASIS OF PAYMENT

Accepted quantities for Bituminous Pavement Milling and Texturing will be paid for at the Contract Unit Price as quoted (which shall be full compensation for all Work required under this Section) and paid per square yard of Bituminous Pavement Milling and Texturing satisfactorily completed. All labor, materials, and equipment shall be incidental to the Milling and Texturing of Bituminous Pavement.

SECTION 9- CURB AND GUTTER

9.0 SCOPE

This Work consists of the construction of Curb and Gutter on a thoroughly prepared subgrade in accordance with the Plans, Contract Documents and Specifications, and Lexington-Fayette Urban County Government Standard Drawing, #301-0, current edition. Work in this section shall also conform to Sections 207, 506, 601, 603, 801, 802, 803, 804, and 805 of the Kentucky Department of Highways (KDOH) Standard Specifications, current edition, but only to the extent that these KDOH sections do not conflict with the content of the Plans, Contract Documents and Specifications, and Lexington-Fayette Urban County Government Standard Drawings.

Any placement of concrete must be immediately preceded by inspection and approval of the Engineer.

Work for this section shall include all labor, materials, equipment, excavation, and incidentals necessary to complete the Work.

9.1 PAYMENT

Accepted quantities thus measured will be paid for at the Contract Unit Price per linear foot as quoted and shall be full compensation for all Work required under this Section. Curb and Gutter will be paid at the Unit Price across all entrances. All labor, materials, equipment, and excavation shall be incidental to the placement of concrete curb and gutter.

SECTION 10 - CONCRETE SIDEWALK

10.0 Scope

This item involves the construction of a concrete sidewalk as shown on the plans, and as directed by the ENGINEER. This Work consists of the construction of sidewalks (4 1/2 inches thick) on a thoroughly compacted subgrade in accordance with the Plans, Contract Documents and Specifications and Lexington-Fayette Urban County Government Drawing 303, current edition. Work in this section shall also conform to Sections 206, 207, 505, 601, 801, 802, 803, 804, 805 and 823 of the Kentucky Department of Highways (KDOH) Standard Specifications, current edition, but only to the extent that these KDOH sections do not conflict with the content of the Plans, Contract Documents and Specifications and LFUCG Standard Drawings.

All concrete used shall be Class A concrete on which Type 2 (white pigmented) curing compound is used. Any placing of concrete must be immediately preceded by inspection and approval of the Engineer.

Expansion joints shall be placed at 32-foot intervals. Expansion joint material shall be of approved quality and of 1/2 inch thickness. Expansion joints shall extend entirely and continuously through the concrete and all excess expansion joint material shall be trimmed to conform to the surface of the concrete.

Place sidewalk by use of side forms or an approved slip form method according to Subsection 601.03.12. Deposit concrete on a moistened subgrade strike, and compact to the required thickness, and tamp sufficiently to bring mortar to the surface. Then, finish the surface smooth and even with wooden floats and brushes and broom for texturing. Before giving the concrete sidewalk the final finish and brooming, check the surfaces with a 10-foot straightedge and eliminate all irregularities of more than 1/4 inch. Edges and division marks shall be finished in a neat and workmanlike manner through use of the proper concrete finishing tools. Division joints in sidewalks shall be 3/4 inch in depth, at four foot intervals.

When replacing portions of existing concrete sidewalks and entrance pavements next to portions to remain; the concrete will be removed to the nearest transverse joint or division mark beyond the matching point indicated on the Plans. The existing concrete shall be sawed by an approved concrete saw. In the absence of a transverse joint or division mark, the sawing shall be performed as directed by the Engineer. It will not be permissible to place new concrete against the ragged edges of concrete caused by removal devices such as hand tools and air hammers.

Work for this section shall include all labor, materials, equipment, excavation and incidentals necessary to complete the Work.

10.1 Payment

Accepted quantities for Concrete Sidewalks shall be paid for at their respective Contract Unit Prices as quoted (which shall be for all Work required under this Section) and paid per square yard

of specified Concrete Sidewalk satisfactorily placed. All labor, materials, equipment, and excavation shall be incidental to the placement of Concrete Sidewalk.

SECTION 11 - FENCING

11.0 SCOPE

Furnish and erect fence and gates of the height and type specified in the Plans, supported by steel, or timber posts at the locations shown or otherwise designated and at grades designated during construction.

11.1 MATERIALS

Concrete. Conform to KTC Subsection 601.02 and 601.03.

Fabric. Use 0.148-inch nominal diameter wire woven in 2-inch mesh. Coat Type I fabric to conform to Class D. Furnish fabric for fences 4 feet and 6 feet high that has the top selvages knuckled and bottom selvage knuckled or twisted and barbed. Furnish fabric for fences 8 feet high or higher with both top and bottom selvages twisted and barbed.

Post Caps and Socket Type Brace Connections. Use galvanized malleable iron, or other approved type, designed to exclude moisture from inside posts and rails.

Posts, Rails, Gate Frames and Expansion Sleeves. With zinc-coated steel fabric or with aluminum-coated steel fabric, use either zinc-coated steel or zinc acrylic coated steel. With aluminum alloy fabric, use aluminum alloy. Furnish steel posts that comply with KTC Subsection 816.07.01.

Fabric Ties. Use either a minimum 0.148-inch nominal diameter aluminum alloy or 0.120-inch nominal diameter galvanized steel.

Hog Rings and Tension Wire. With zinc-coated steel fabric or with aluminum-coated steel fabric, use zinc-coated steel wire or aluminum-coated steel wire. Ensure that steel ties and wire conform to ASTM F 626, except that the minimum weight of coating is 0.6 ounces per square foot. With aluminum alloy fabric, use aluminum alloy wire.

Miscellaneous Fittings and Hardware. With zinc-coated steel fabric or with aluminum-coated steel fabric, use zinc-coated steel. With aluminum alloy fabric, use aluminum alloy.

11.2 CONSTRUCTION

Before starting fencing operations, remove all brush, stumps, logs, and debris that will interfere with the proper construction of the fence.

Remove or trim sound standing trees in the fence line as directed.

Construct fence with new materials according to the Standard Drawings and as specified in this section. Install fence as one of the first construction operations. Where it is impractical to install fence initially in its final form or location, obtain written permission from adjacent property owners

either to permit construction of a suitable temporary fence or to delay fence erection until such time as the permanent fence may be erected. Where tying fence to a new structure, erect a temporary fence until such time as the structure is complete and the permanent fence can be anchored to the structure in the manner specified in the Plans.

Apply sufficient tension between pull posts to make the fence stock tight. Install pull posts at all breaks in horizontal alignment of the fence, and at sharp breaks in vertical alignment. For tangents and curves up to one degree, space pull posts a maximum of 500 feet on centers; ensure that curves over one degree to 4 degrees have pull posts spaced a maximum of 250 feet on centers; and curves over 4 degrees have pull posts installed each time the angle of deflection increases 5 degrees.

Use any Class concrete according to KTC Subsection 601.03.

Setting Posts. Set all posts at the required depths and intervals designated in the Contract. Set posts plumb and in true alignment on the side where the wire is attached. Dig holes for posts to full depth and with sufficient diameter to allow proper tamping and compaction of the backfill. Use sound earth for the backfill and tamp it in place until the post is firm and rigid in its position. Set wood posts with the butt end down.

When encountering solid rock at grade or below, drill a hole one foot deep and slightly larger than the outside dimensions of the post or brace in the rock, and grout in the post. At line posts where top of rock is 8 inches or less below grade, remove the anchor plate. Backfill all excavation above rock, below grade, in 4 to 6-inch layers and tamp each layer thoroughly in place. Field cut posts and braces to fit maximum depth whenever encountering solid rock.

Set all end, gate, corner, and pull posts, and anchor them in concrete placed to the top of the ground, finished smooth, and sloped to drain.

Brace all end, gate, and corner posts. Brace pull posts in 2 directions. Brace corner posts in the direction of each line of the fence. Anchor the metal braces from the metal posts in concrete that is crowned at the top to shed water. Brace wood or concrete posts with a pole or bar of the same type of material as the post. When using wood posts, notch the braced post and adjacent line posts one inch deep at one foot from the top of the finished post to receive the brace pole. Secure the brace pole to the posts by spiking or other means. Loop galvanized smooth wire having a minimum diameter of 0.148 inch around the braced post near the ground, and then loop it around the line post at 12 inches below its top continuing between the posts until 4 strands of wire are in place and the ends of the wire are securely fastened together. Then twist the strands of wire together until the brace pole is in compression. Do not allow the compression to be great enough to cause lateral springing in the brace pole.

Allow concrete anchors to cure for at least 5 days before erecting the fence.

Fencing. Tie any intersecting fence to an independent pull post.

Stretch woven wire fabric taut and securely fasten it to each post. Accomplish stretching with a stretcher that will produce equal tension in each line wire. Stretch fabric until the tension is just below the point of producing displacement in the tension crimps.

At each end, corner, or gate post, cut and turn each strand of line wire around the post and tie it back to itself with no less than 3 turns.

When it is necessary to splice 2 sections of fence, make the splice by placing together the end stay wires of each section, and twist the end of each line wire around the stay wires and back onto itself with no less than 3 turns; or splice the fence by using Engineer approved splicing sleeves designed for that purpose.

Attach the fence to each wood post with a staple for each line wire and as many additional staples as necessary to firmly secure the wire. Furnish galvanized staples having a nominal diameter of 0.148 inch and a length of no less than one inch in length, for hardwood posts. When using treated softwood posts, furnish staples that are 1 1/2 inches long. Securely attach the woven wire fabric as shown on the Standard Drawings. Use tension wires and rails in erection of chain link fences as shown on the Standard Drawings. When shown on the Standard Drawings, place, stretch taut, and secure at ends the top or bottom tension wires to all posts in a manner before placing fabric. When a top rail is required, secure the bar at each end before stretching and tying the fabric. Secure ends of the fabric with stretcher bars threaded through the loops of the fabric and secured to the posts by means of clamps with bolts and nuts. Use the number of clamps as indicated.

Place the fabric by securing one end and applying sufficient tension to remove all slack before making attachments elsewhere. Fasten the fabric to the line posts and to the top tension wire or to the top rail, with tie wires or bands as called for in the Chain Link Fencing Materials Section or as the Contract designates.

Determine the number of tension bands required per post of chain link fence by taking the height of the fence in feet and subtracting one. Space tie wires for attaching chain link fence to the top tension wire or top rail on 24-inch centers. Space tie wires for attaching chain link fence to intermediate or line posts on 14-inch centers. Space tie wires on chain link gates on 24-inch centers. Install the chain link fence around utility installations facing the highway. Design and install post caps for all tubular posts so as to exclude moisture from inside the posts, and install socket type brace end connections so as to exclude moisture from inside the rails.

Gates. Erect gates at locations specified in the Plans or as the Engineer directs. Erect the gate plumb with its hinges firmly attached to the post and to the gate.

Allow the gate to swing freely when opened. Install the latch so it works easily and secures the gate when closed.

Finishing. Ensure that the tops of all posts are at a uniform height above the ground or at a uniform distance above the top of the woven wire fabric. After erecting the fence, saw the tops of wood posts uniformly at least 2 inches above the strand of wire. Make the cut at an angle of 60 degrees to the vertical on the side of the post away from the wire.

Ensure that the finished fence is true to line, taut, and solid at all points. Dispose of all surplus excavated material and other debris resulting from construction and leave the fence line with a neat and orderly appearance.

11.3 MEASUREMENT

Fence. The Owner will measure the quantity of each type and height in linear feet along the top of the fence from outside to outside of end posts of fence installed, with deductions for all gates. The Owner will not measure material removal and disposal, drilling, excavating, or backfilling, installation or removal of temporary fences, or for connections to abutments or other structures for payment and will consider it incidental to this item of work.

Gates. The Owner will measure the quantity by each individual unit. The Owner will not measure excavation or concrete for water gates for payment and will consider it incidental to this item of work.

11.4 PAYMENT

The Owner will make payment for the completed and accepted quantities under the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Fence, Type and Height	Linear Foot
Gate, Type	Each

The Owner will consider payment as full compensation for all work required under this section.

SECTION 12 – LANDSCAPING

12.1 SCOPE

1. Trees.
2. Shrubs.
3. Ground covers.
4. Plants.
5. Lawns.
6. Topsoil and soil amendments.

All disturbed areas located on private property shall be sodded at completion of the proposed construction; and all disturbed areas located within LFUCG right-of-way, or LFUCG-owned properties shall be seeded and protected as described herein.

12.2 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract.
- B. Product certificates signed by manufacturers certifying that their products comply with specified requirements.
 1. Manufacturer's certified analysis for standard products.
 2. Analysis for other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
 3. Label data substantiating that plants, trees, shrubs, and planting materials comply with specified requirements.
- C. Certification of grass seed from seed vendor for each grass-seed mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
 1. Certification of each seed mixture for sod, identifying sod source, including name and telephone number of supplier.
- D. Material test reports from qualified independent testing agency indicating and interpreting test results relative to compliance of the following materials with requirements indicated.
 1. Analysis of existing surface soil.
 2. Analysis of imported topsoil.
- E. Topsoil Analysis: Furnish a soil analysis made by a qualified independent soil-testing agency stating percentages of organic matter, inorganic matter (silt, clay, and sand), deleterious material, pH, and mineral and plant-nutrient content of topsoil.

1. Report suitability of topsoil for growth of applicable planting material. State recommended quantities of nitrogen, phosphorus, and potash nutrients and any limestone, aluminum sulfate, or other soil amendments to be added to produce a satisfactory topsoil.

12.3 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.
- B. Seed: Deliver seed in original sealed, labeled, and undamaged containers.
- C. Sod: Harvest, deliver, store, and handle sod according to the requirements of the American Sod Producers Association's (ASPA) "Specifications for Turfgrass Sod Materials and Transplanting/Installing."
- D. Trees and Shrubs: Deliver freshly dug trees and shrubs. Do not prune before delivery, except as approved by OWNER. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy natural shape. Provide protective covering during delivery. Do not drop trees and shrubs during delivery.
 1. Handle balled and burlapped stock by the root ball.
 2. Deliver trees, shrubs, ground covers, and plants after preparations for planting have been completed and install immediately. If planting is delayed more than 6 hours after delivery, set planting materials in shade, protect from weather and mechanical damage, and keep roots moist.
 - a. Heel-in bare-root stock. Soak roots in water for 2 hours if dried out.
 - b. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 - c. Do not remove container-grown stock from containers before time of planting.
 - d. Water root systems of trees and shrubs stored on site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

12.4 COORDINATION AND HANDLING

Coordinate installation of planting materials during normal planting seasons (March 1st- April 15th and Sept 1st- Nov. 15th.), unless authorized in writing from the owner.

12.5 TREE AND SHRUB MAINTENANCE

- A. Maintain trees and shrubs by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray as required to keep trees and shrubs free of insects and disease. Warranty trees for one-year after project is completed and accepted.
- B. **GROUND COVER AND PLANT MAINTENANCE**
 - 1. Maintain ground cover and plants by watering, weeding, fertilizing, and other operations as required to establish healthy, viable plantings for the following period:
 - a. Water ground cover and plants until established
 - b. Warranty ground cover and plants for one-year after project is completed and accepted.

12.6 LAWN MAINTENANCE

- A. Begin maintenance of lawns immediately after each area is planted and continue until acceptable lawn is established.
- B. Maintain and establish lawns by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.
- C. Water lawn at the minimum rate of 1 inch per week. Maintain watering schedule until lawns are fully established.
- D. Mow lawns as soon as there is enough top growth to cut with mower set at specified height for principal species planted. Repeat mowing as required to maintain specified height without cutting more than 40 percent of the grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Revise timing of fertilizer application when slow-release fertilizer was applied initially.
- E. Postfertilization: Apply fertilizer to lawn after first mowing and when grass is dry. Use fertilizer that will provide actual nitrogen of at least 1 lb per 1000 sq. ft. of lawn area.

12.7 TREE AND SHRUB MATERIAL

- A. General: Furnish nursery-grown trees and shrubs conforming to ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully-branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

- B. Grade: Provide trees and shrubs of sizes and grades conforming to ANSI Z60.1 for type of tree and shrubs required. Trees and shrubs of a larger size may be used if acceptable to OWNER, with a proportionate increase in size of roots or balls.
- C. Labeling is recommended unless an expert is available to identify material.
- D. Label at least 1 tree and 1 shrub of each variety and caliper with a securely attached, waterproof tag bearing legible designation of botanical and common name.
- E. SHADE AND FLOWERING TREES
 - 1. Shade Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated, conforming to ANSI Z60.1 for type of trees required.
 - 2. Branching Height: 1/3 to 1/2 of tree height.
 - 3. Small Trees: Small upright or spreading type, branched or pruned naturally according to species and type, and with relationship of caliper, height, and branching recommended by ANSI Z60.1
 - 4. Container-grown trees will be acceptable in lieu of balled and burlapped trees subject to meeting ANSI Z60.1 limitations for container stock.
- F. DECIDUOUS SHRUBS
 - 1. Form and Size: Deciduous shrubs with not less than the minimum number of canes required by and measured according to ANSI Z60.1 for type, shape, and height of shrub.
 - 2. Provide balled and burlapped deciduous shrubs.
 - a. Container-grown deciduous shrubs will be acceptable in lieu of balled and burlapped deciduous shrubs subject to meeting ANSI Z60.1 limitations for container stock.
- G. CONIFEROUS EVERGREENS
 - 1. Form and Size: Normal-quality, well-balanced, coniferous evergreens, of type, height, spread, and shape required, conforming to ANSI Z60.1.
 - 2. Provide balled and burlapped coniferous evergreens.
 - a. Container-grown coniferous evergreens will be acceptable in lieu of balled and burlapped coniferous evergreens subject to meeting ANSI Z60.1 limitations for container stock.

H. BROADLEAF EVERGREENS

1. Form and Size: Normal-quality, well-balanced, broadleaf evergreens, of type, height, spread, and shape required, conforming to ANSI Z60.1.
2. Provide balled and burlapped broadleaf evergreens.
 - a. Container-grown broadleaf evergreens will be acceptable in lieu of balled and burlapped broadleaf evergreens subject to meeting ANSI Z60.1 limitations for container stock.

12.8 GROUND COVERS AND PLANTS

- A. Provide ground covers and plants established and well rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size indicated.

12.9 GRASS MATERIALS

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with the Association of Official Seed Analysts' "Rules for Testing Seeds" for purity and germination tolerances.
 1. Seed Mixture: Provide seed of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed [as indicated on Schedules at the end of this Section](#).
 2. Sod: Certified turfgrass sod complying with ASPA specifications for machine-cut thickness, size, strength, moisture content, and mowed height, and free of weeds and undesirable native grasses. Provide viable sod of uniform density, color, and texture of the following turfgrass species, strongly rooted, and capable of vigorous growth and development when planted.
 - a. Species: Provide sod of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated on Schedules at the end of this Section.

12.10 TOPSOIL

- A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, 4 percent organic material minimum, free of stones 1 inch or larger in any dimension, and other extraneous materials harmful to plant growth.
- B. Topsoil Source: Reuse surface soil on the site. Verify suitability of surface soil to produce topsoil meeting requirements and amend when necessary. Supplement with imported topsoil when quantities are insufficient. Clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth.

12.11 FERTILIZER

- A. Bonemeal: Commercial, raw, finely ground; minimum of 4 percent nitrogen and 20 percent phosphoric acid.
- B. Superphosphate: Commercial, phosphate mixture, soluble; minimum of 20 percent available phosphoric acid.
- C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea-form, phosphorous, and potassium in the following composition:
 - 1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.
- D. Slow-Release Fertilizer: Granular fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

12.12 EXECUTION

A. EXAMINATION

- 1. The Contractor examines areas to receive landscaping for compliance with requirements and for conditions affecting performance of work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected. No installation of landscaping materials or topsoil shall be done while the soil is either frozen or water saturated.

B. PREPARATION

- 1. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, and secure OWNER'S acceptance before the start of planting work. Make minor adjustments as may be required by OWNER.

C. LAWN PLANTING PREPARATION

- 1. Limit subgrade preparation to areas that will be planted in the immediate future.
- 2. Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous materials.
- 3. Spread planting soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen.

- a. Place approximately 1/2 the thickness of planting soil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of planting soil mixture.
 - b. Allow for sod thickness in areas to be sodded.
4. Preparation of Unchanged Grades: Where lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface soil stripping operations, prepare soil as follows:
- a. Remove and dispose of existing grass, vegetation, and turf. Do not turn over into soil being prepared for lawns.
 - b. Till surface soil to a depth of at least 6 inches. Apply required soil amendments and initial fertilizers and mix thoroughly into top 4 inches of soil. Trim high areas and fill in depressions. Till soil to a homogenous mixture of fine texture.
 - c. Clean surface soil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth.
 - d. Remove waste material, including grass, vegetation, and turf, and legally dispose of it off the Owner's property.
5. Grade lawn and grass areas to a smooth, even surface with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future. Remove trash, debris, stones larger than 1 inch in any dimension, and other objects that may interfere with planting or maintenance operations.
6. Moisten prepared lawn areas before planting when soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
7. Restore prepared areas if eroded or otherwise disturbed after fine grading and before planting.

D. EXCAVATION FOR TREES AND SHRUBS

1. Pits and Trenches: Excavate with vertical sides and with bottom of excavation slightly raised at center to assist drainage. Loosen hard subsoil in bottom of excavation.
- a. Balled and Burlapped Trees and Shrubs: Excavate approximately 1-1/2 times as wide as ball diameter and equal to ball depth, plus the following setting layer depth:

Setting Layer: Allow 3 inches of planting soil.
 - b. Container-Grown Trees and Shrubs: Excavate to container width and depth, plus the following setting-layer depth:

Setting Layer: Allow 3 inches of planting soil.

- c. Where drain tile is shown or required under planted areas, excavate to top of porous backfill over tile.

Dispose of subsoil removed from landscape excavations. Do not mix with planting soil or use as backfill.

Obstructions: Notify Engineer if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

- d. Hardpan Layer: Drill 6-inch diameter holes into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.
2. Drainage: Notify Engineer if subsoil conditions evidence unexpected water seepage or retention in tree or shrub pits.

E. PLANTING TREES AND SHRUBS

1. Set balled and burlapped stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades as indicated.
 - a. Place stock on setting layer of compacted planting soil.
 - b. Remove burlap from tops of balls and partially from sides, but do not remove from under balls. Remove wire baskets completely. Remove pallets, if any, before setting. Do not use planting stock if ball is cracked or broken before or during planting operation.
 - c. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately 1/2 backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.
2. Set container-grown stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades as indicated.
 - a. Carefully remove containers so as not to damage root balls.
 - b. Place stock on setting layer of compacted planting soil.
 - c. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately 1/2 backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.
3. Dish and tamp top of backfill to form a 3-inch high mound around the rim of the pit. Do not cover top of root ball with backfill.

F. TREE AND SHRUB PRUNING

1. Prune, thin, and shape trees and shrubs as directed by OWNER.

2. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by OWNER, do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are size after pruning.

G. PLANTING GROUND COVER AND PLANTS

1. Space ground cover and plants as indicated.
2. Dig holes large enough to allow spreading of roots, and backfill with planting soil. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

H. SEEDING NEW LAWNS

1. Sow seed with a spreader or a seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in 2 directions at right angles to each other.
 - a. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage.
2. Sow seed at the following rates:
 - a. Seeding Rate: 5 to 8 lb per 1000 sq. ft..
3. Rake seed lightly into top 1/8 inch of topsoil, roll lightly, and water with fine spray.
4. Protect seeded slopes exceeding 1:4 against erosion with erosion-control blankets installed and stapled according to manufacturer's recommendations.
5. Protect seeded slopes exceeding 1:6 against erosion with jute or coir-fiber erosion-control mesh installed and stapled according to manufacturer's recommendations.
6. Protect seeded areas with slopes less than 1:6 against erosion by spreading straw mulch after completion of seeding operations. Spread uniformly at a minimum rate of 2 tons per acre to form a continuous blanket 1-1/2 inches loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.
 - a. Anchor straw mulch by crimping into topsoil by suitable mechanical equipment.
7. Protect seeded areas against hot, dry weather or drying winds by applying peat mulch within 24 hours after completion of seeding operations. Soak and scatter uniformly to a depth of 3/16 inch thick and roll to a smooth surface.

I. HYDROSEEDING NEW LAWNS

1. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogenous slurry suitable for hydraulic application.
 - a. Retain nonasphaltic tackifier in mix for improved erosion control.
 - b. Mix slurry with nonasphaltic tackifier.
 - c. Apply slurry uniformly to all areas to be seeded in a 1-step process. Apply mulch at the minimum rate of 1500 lb per acre dry weight but not less than the rate required to obtain specified seed-sowing rate.

J. SODDING NEW LAWNS

1. Lay sod within 24 hours of stripping. Do not lay sod if dormant or if ground is frozen.
2. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 - a. Lay sod across angle of slopes exceeding 1:3.
 - b. Anchor sod on slopes exceeding 1:6 with wood pegs spaced as recommended by sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.
3. Saturate sod with fine water spray within 2 hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below the sod.

K. RECONDITIONING LAWNS

1. Recondition existing lawn areas damaged by Contractor's operations, including storage of materials or equipment and movement of vehicles. Also recondition lawn areas where settlement or washouts occur or where minor regrading is required.
 - a. Recondition other existing lawn areas.
2. Remove sod and vegetation from diseased or unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from Contractor's

operations, including oil drippings, fuel spills, stone, gravel, and other construction materials, and replace with new topsoil.

3. Where substantial lawn remains, mow, dethatch, core aerate, and rake. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
4. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of it off the Owner's property.
5. Till stripped, bare, and compacted areas thoroughly to a depth of 6 inches.
6. Apply required soil amendments and initial fertilizers and mix thoroughly into top 4 inches of soil. Provide new planting soil as required to fill low spots and meet new finish grades.
7. Apply seed and protect with straw mulch as required for new lawns.
8. Apply sod as required for new lawns.
9. Water newly planted areas and keep moist until new grass is established.

L. INSTALLATION OF MISCELLANEOUS MATERIALS

1. Apply antidesiccant using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage.
 - a. When deciduous trees or shrubs are moved in full-leaf, spray with antidesiccant at nursery before moving and again 2 weeks after planting.

M. CLEANUP AND PROTECTION

1. During landscaping, keep pavements clean and work area in an orderly condition.
2. Protect landscaping from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

N. DISPOSAL OF SURPLUS AND WASTE MATERIALS

1. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

O. PLANTING SOIL AMENDMENTS SCHEDULE

Lawn Area Seed Mix: Seed shall be a blend of Turf Type Tall Fescue with perennial and annual rye:

Provide a minimum of two types of Turf Type Fescue from the following list with Falcon II, Hounddog 5, Finelawn Petite, Crossfire II.

Provide either Calypso II or Manhattan II type of Perennial Ryegrass.

SEED MIXTURES SCHEDULE

Proportion	Name	Min. Pct. Germ.	Min. Pct. Pure Sd.	Max. Pct. Weed Sd.
70 pct.	Turf Type Fescue	85	85	0.50
20 pct.	Manhattan Rye Grass	80	90	0.50
10 pct.	Annual Rye Grass	85	90	0.50

SECTION 13 - EROSION AND SEDIMENT CONTROL

13.0 GENERAL

RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Documents affecting work of this section include but are not necessary limited to Kentucky Storm Water General Permit, Kentucky Erosion Prevention and Sediment Control Field Guide.
- C. LFUCG Code of Ordinances, Chapter 16

13.1 SUMMARY

- A. In general, the section includes all of the sediment and erosion control items needed to satisfy the regulatory authorities and may include, but not be limited to the following:
 - 1. Sign and obtain the Notice of Intent.
 - 2. Prepare and maintain Erosion and Sediment Control Plan (Plan).
 - 3. Termination of the Notice of Intent.
 - 4. Inlet Protection
 - 5. 4' high Filter Fabric
 - 6. "North American Green" Erosion Control Mat

13.2 PERFORMANCE REQUIREMENTS

- A. Intent for the Division of Water. Contractor to submit the Notice of Intent to the Kentucky Division of Water. Sample form is attached.
- B. Prepare a Soil Erosion Control Plan: A Professional Engineer licensed to practice in the Commonwealth of Kentucky shall prepare a Soil Erosion Control Plan. The contractor shall update the soil erosion control plan periodically as site conditions change.
- C. Weekly inspection of all erosion and sediment control items. Inspection every 14 days and after rainfall events of 0.5 inch or more. Sample inspection report forms are attached.
- D. Provide inlet protection as per the LFUCG Standard Details, and as acceptable to the OWNER.
- E. 4' High Filter Fabric shall be installed per manufacturer's specifications and in accordance with the standard detail.
- F. North American Green Erosion Control Mat shall be installed per manufacturer's specifications in locations outlined on the construction plans. Install along channel sides

to extend five (5) feet horizontally on either side of the channel. Install on all slopes of 4:1 or greater.

13.3 SUBMITTALS

- A. NOI: Submit NOI to KPDES Branch, Division of Water, per attached instructions. A copy of the submitted NOI form shall be sent to the ENGINEER and the Owner.
- B. The ESC Plan prepared may be submitted to the LFUCG for review to obtain a LFUCG Land Disturbance Permit.
- C. Subcontractor Signatures: Signatures of all subcontractors for approval stating that they have read, understand and that they intend to comply with the plan. A copy of the signatures shall be submitted to the OWNER AND ENGINEER.

13.4 EXECUTION

- A. Continuous Service: The sediment and erosion control items are to be installed prior to the commencement of all other construction activities on site. Continuous maintenance shall be required until the next contract has been signed. To transfer the Notice of Intent, a letter is to be written and signed by the new contractor. Once this letter has been received and approved by the Division of Water the Contractor's responsibility shall be relieved.
- B. Prepare Daily Field Reports per Plan requirements. A sample form is attached. Submit to regulatory agency as required.
- C. Prepare Erosion and Sediment Control Inspection and Maintenance Report Form weekly per Plan requirements. A sample form is attached. Submit to regulatory agency as required.
- D. Remove temporary erosion sediment control measures when site is 70% stabilized. Seed and protect any disturbed areas with permanent grass protect mixture.
- E. The Plan shall be updated by the preparer as field conditions warrant.
- F. Pollution Prevention measures shall not be constructed until the Plan has been accepted by the LFUCG.
- G. No work on the project may commence until Pollution Prevention Measures are installed and accepted by the LFUCG and a Land Disturbance Permit is issued.
- H. CONTRACTOR is responsible for filing all appropriate Notices of Termination (NOT) when the site is stabilized.

**STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM**

KPDES Permit No. _____

Project _____

Inspected By: _____ Title: _____

Date: _____ Time: _____ Weather: _____ Temp. Range: _____

Storm Water Inspection Checklist. Applies to All Areas that are Impacted by Construction			
Condition Observed	Locations(s) or "Not Observed"	Corrective Action	Responsible / Complétion Date
Pollutant Sources			
Is there evidence of spilled materials (oil, fuel, beverage product)?			
Are there any debris piles with petroleum cans, chemical containers or other sources of possible pollution?			
Evidence of spilled materials in storm water (sheen on water, odor, unusual color, foam, sediment).			
Are there leaking pipes, pumps, valves and/or hose connections on construction equipment?			
Is there evidence of tracking on spilled materials on ground?			
Other conditions:			
Erosion Control			
Are there any bare areas which require temporary or permanent stabilization? (seeding, mulch, other? _____)			

Are all finished cut and fill slopes adequately stabilized?			
Do any structural practices show evidence of overtopping, breaks or erosion?			
Are all earthen structures seeded and mulched? Is vegetation providing adequate protection?			
Do any seeded areas require fertilizer, reseeding or additional mulch?			
Other conditions:			
Sediment Control			
Are perimeter sediment trapping measures in place and functioning properly?			
Have sediment-trapping practices been installed in the proper location and before extensive grading begins?			
Silt fences in place and functional with no breaches.			
Is sediment leaving the site and/or damaging adjacent property?			
Is there mud on public roads or at intersections with public roads?			
Other conditions:			
Runoff Conveyance and Control			
Are all on-site drainage channels and outlets adequately stabilized? (channel lining, seeding, other_____ ; outlet stabilization_____)			
Are all operational storm sewer inlets protected so that sediment will not enter the system?			

Is there evidence of increased off-site erosion since the project began?			
Is there clogged storm drain?			
Are downstream waterways and property adequately protected from increases in stormwater runoff?			
Are there debris, trash, sediment, or other materials in drain structures?			
Other conditions:			
Dust Control			
Are there evidence of dust on surrounding areas, building & cars?			
Dust suppression applications this week?			
Other conditions:			
Hazardous Material Equipment Fueling			
Broken, cracked, or leaking secondary containment.			
Missing absorbent material or other spill cleanup materials near oil or chemical storage or dispensing areas.			
Are there chemical drums without secondary containment?			
Are there chemicals dispensed, poured or used outside without containment?			
Other conditions:			

Maintenance			
Leaking construction debris dumpsters/containers.			
Do any structural practices require repair or clean-out?			
Have temporary structural practices that are no longer needed been removed?			
Is any work occurring in streams? Is channel damage being minimized? Is stabilization or a temporary stream crossing needed?			
Are there open drums (no lids or bungs) ?			
Are utility trenches being backfilled and seeded properly?			
Vehicle or equipment maintenance performed outside without cover or secondary containment.			
Wash water from vehicle or equipment washing that has potential to flow to storm drain, ditch, or ground.			
Uncovered construction debris dumpster or roll off box (without lid or cover when not in use.			
Other conditions:			

Signature of Inspector: _____ **Date:** _____

13.5 MEASUREMENT AND PAYMENT

- A. Payment for Erosion and Sediment Control shall be for SWPPP preparation and revision, installation, maintenance, and removal of Pollution Prevention measures and other work necessary to make the work compliant with Federal, State and Local regulations, laws and/or ordinances. A maximum of fifty (50) percent of the amount bid for Erosion and Sediment Control shall be payable until the project reaches substantial completion. At substantial completion, the amount payable may be increased to ninety (90) percent of the bid amount. When the site is stabilized, the remainder shall be paid.

- B. The Owner will make payment for the completed and accepted quantities under Erosion & Sediment Control, and shall include the following, but not limited to these items:

<u>Pay Item</u>	<u>Pay Unit</u>
Inlet Protection	Incidental
Filter Fabric	Incidental
“North American Green” Erosion Control Mat	
Silt Fences	
Clean and Sweep the Streets	
Wash out the Storm Sewers	
Seed and Protect	

SECTION 14 - ARMORLOC® CELLULAR CONCRETE BLOCK **HAND PLACE SPECIFICATION FOR EROSION CONTROL**

14.1 GENERAL

A. Scope of Work:

1. The contractor shall furnish all labor, materials, equipment, and incidentals required and perform all operations in connection with the installation of cellular concrete erosion control blocks in accordance with the lines, grades, design and dimensions shown on the Contract Drawings and as specified herein.

B. Submittal

1. The Contractor shall submit to the Engineer all manufacturers' hydraulic testing and calculations in support of the proposed cellular concrete block system and geotextile.
2. The Contractor shall furnish the manufacturer's certificates of compliance for cellular concrete blocks/mats. The Contractor shall also furnish the manufacturer's specifications, literature and any recommendations, if applicable, that are specifically related to the project.
3. Alternative materials may be considered. Such materials must be pre-approved in writing by the Engineer prior to bid date. Alternative material packages must be submitted to the Engineer a minimum of ten (10) days prior to bid date. Submittal packages must include, as a minimum, the following:
 - a. Full-scale laboratory testing submitted by the manufacturer and associated engineering calculations quantifying the hydraulic capacity of the proposed cellular concrete block system in similar conditions to the specific project.
 - b. A list of 5 comparable projects, in terms of size and applications, in the United States, where the results of the specific alternate revetment system use can be verified after a minimum of one (1) year of service life.

14.2 PRODUCT

A. General

1. All interlocking precast concrete blocks are substantially H-shaped, having a flat bottom and, in its middle, two vertical openings of rectangular cross section and shall be manufactured as individual units which shall be packaged in a manner suitable for transportation to the jobsite. The blocks shall be shaped in such a way that each block keys into four (4) adjacent blocks. Further, the blocks are capable of

being connected at the jobsite so that each individual unit is physically interlocked with six (6) surrounding blocks to resist lateral movement and uplift. The gross area of each individual block in direct contact with the protected subgrade shall be no less than one square foot.

2. The Contractor shall place the interlocking blocks to the lines and grades shown on the Contract Drawings.

B. Cellular Concrete Blocks

1. Scope: This specification covers erosion control interlocking blocks used in revetments for soil stabilization.

Note 1 - Concrete units covered by this specification are made from lightweight or normal weight aggregates, or both.

Note 2 - The values stated in U.S. customary units are to be regarded as the standard.

2. Materials:

- a. Cementitious Materials - Materials shall conform to the following applicable ASTM specifications:
- b. Portland Cements - Specification C 150, for Portland Cement.
- c. Blended Cements - Specification C 595, for Blended Hydraulic Cements.
- d. Hydrated Lime Types - Specification C 207, for Hydrated Lime Types.
- e. Pozzolans - Specification C 618, for Fly Ash and Raw or Calcined Natural Pozzolans for use in Portland Cement Concrete.
- f. Aggregates shall conform to the following ASTM specifications, except that grading requirements shall not necessarily apply:
- g. Normal Weight - Specification C 33, for Concrete Aggregates.

3. Casting

- a. The concrete units shall be produced by a dry cast method. The dry cast units obtain strength in a shorter duration as well as an increase in the durability and overall quality of product.

4. Physical Requirements

- a. At the time of delivery to the work site, the units shall conform to the physical requirements prescribed in Table 1 below.

TABLE 1. ARMORLOC® PHYSICAL REQUIREMENTS

Compressive Strength Net Area Min. psi		Water Absorption Max., LB/FT³	
Avg. of 3 units	Individual Unit	Avg. of 3 units	Individual Unit
4,000	3,500	10	12

- b. When applicable, the manufacturer shall meet all requirements pertaining to a concrete unit's durability pertaining to a freeze-thaw environment.
 - c. Units shall be sampled and tested in accordance with ASTM D 6684-04, Standard Specification for Materials and Manufacture of Articulating Concrete Block (ACB) Revetment Systems.
5. Visual Inspection
- a. All units shall be sound and free of defects that would interfere with either the proper placement of the unit or impair the performance of the system. Surface cracks incidental to the usual methods of manufacture, or surface chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection.
 - b. Cracks exceeding 0.25 inches in width and/or 1.0 inch in depth shall be deemed grounds for rejection.
 - c. Chipping resulting in a weight loss exceeding 10% of the average weight of a concrete unit shall be deemed grounds for rejection.
 - d. Blocks rejected prior to delivery from the point of manufacture shall be replaced at the manufacturer's expense. Blocks rejected at the job site shall be repaired with structural grout or replaced at the expense of the contractor.

6. Sampling and Testing

- a. The purchaser or their authorized representative shall be accorded proper access to facilities to inspect and sample the units at the place of manufacture from lots ready for delivery.
- b. Field installation procedures shall comply with the procedures utilized during the hydraulic testing procedures of the recommended system. All system restraints and ancillary components (such as synthetic drainage mediums) shall be employed as they were during testing. For example, if the hydraulic testing installations utilize a drainage layer then the field installation must utilize a drainage layer; an installation without the drainage layer would not be permitted.
- c. The theoretical force-balance equation used for performance extrapolation tends for conservative performance values of thicker concrete units based on actual hydraulic testing of thinner units. When establishing performance values of thinner units based on actual hydraulic testing of thicker units, there is a tendency to overestimate the hydraulic performance values of the thinner units. Therefore, all performance extrapolation must be based on actual hydraulic testing of a thinner unit then relating the values to the thicker units in the same "family" of blocks.
- d. Additional testing, other than that provided by the manufacturer, shall be borne by the purchaser.

7. Manufacturer

- a. Cellular concrete blocks shall be ARMORLOC[®] as manufactured, sold and distributed by:

CONTECH Construction Products Inc. Phone: (513) 645-7241
9025 Centre Point Dr. Suite 400 Fax: (513) 645-9000
West Chester, OH 45069

C. Filter Fabric

1. The geotextile filter shall meet the minimum physical requirements listed in Table No. 2 of these Specifications. Consultation with the manufacturer is recommended.
2. The geotextile must be permitted to function properly by allowing relief of hydrostatic pressure; therefore concrete shall not be allowed to clog the filter fabric.
3. The geotextile fiber shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of propylene, ethylene, ester, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic, if necessary, to make the

filaments resistant to deterioration due to ultraviolet and heat exposure. The edges of the geotextiles shall be finished to prevent the outer fiber from pulling away from the geotextiles.

4. The Contractor shall furnish the Engineer, in duplicate, manufacturer's certified test results showing actual test values obtained when the physical properties are tested for compliance with the specifications.
5. During all periods of shipment and storage, the filter fabric shall be protected from direct sunlight, ultraviolet rays and temperatures greater than 140 degrees Fahrenheit. To the extent possible, the fabric shall be maintained wrapped in its protective covering. The geotextile shall not be exposed to sunlight, ultraviolet rays until the installation process begins.

TABLE 2. PHYSICAL REQUIREMENTS

Physical Property	Test Procedure	Minimum Value
Grab Tensile Strength (Unaged Geotextile)	ASTM D4632	200 Lbs. (in any principal direction)
Breaking Elongation (Unaged Geotextile)	ASTM D4632	50% max. (in any principal direction)
Burst Strength	ASTM D3786	400 psi
Puncture Strength	ASTM D4833	115 lbs.
A.O.S., U.S. Std. Sieve	ASTM D4751	see Design Manual
% Open Area	CWO-22125-86	see Design Manual
Permittivity	ASTM D4491	See Design Manual

6. Final acceptance of the filtration geotextile by the Engineer shall be dependent upon the geotextile performance when tested in accordance with ASTM D5105, Standard Test Method for Measuring the Soil-Geotextile System Clogging by the Gradient Ratio test or the Hydraulic Conductivity Ratio test. Soil characteristics such as grain size analysis, and plasticity shall be determined for every 200,000 square feet of geotextile installed, or for each source of borrow material used during construction. Significant differences in soil characteristics shall require further performance testing by either the Gradient Ratio or the Hydraulic Conductivity Ratio tests at the discretion of the Engineer. The locations for which the material to be tested is extracted shall be approved by the Engineer. The Contractor shall provide the site-specific soil and modified proctor curves for the site-soil, at his own expense, to the manufacturer. The manufacturer shall be responsible for the performance of the test by a certified independent laboratory experienced in performing such test. The test shall be performed under the actual field soil conditions or as otherwise required by the Engineer.

7. At the time of installation, the filter fabric shall be rejected if it has been removed from its protective cover for over 72 hours or has defects, tears, punctures, flow deterioration, or damage incurred during manufacture, transportation or storage. With the acceptance of the Engineer, placing a filter fabric patch over the damaged area prior to placing the mats shall repair a torn or punctured section of fabric. The patch shall be large enough to overlap a minimum of three (3) feet in all directions.
8. In the event pre-assembled panels of fabric are required, the panels of filter fabric shall be sewn together at the manufacturer or another approved location.

14.3 FOUNDATION PREPARATION, GEOTEXTILE AND PLACEMENT

A. Foundation Preparation

1. **General.** Areas on which filter fabric and cellular concrete blocks are to be placed shall be constructed to the lines and grades shown on the Contract Drawings and to the tolerances specified in the Contract Documents, and approved by the Engineer.
2. **Grading.** The slope shall be graded to a smooth plane surface to ensure that intimate contact is achieved between the slope face and the geotextile (filter fabric), and between the geotextile and the entire bottom surface of the cellular concrete blocks. All slope deformities, roots, grade stakes, and stones which project normal to the local slope face must be re-graded or removed. No holes, "pockmarks", slope board teeth marks, footprints, or other voids greater than 1.0 inch in depth normal to the local slope face shall be permitted. No grooves or depressions greater than 0.5 inches in depth normal to the local slope face with a dimension exceeding 1.0 foot in any direction shall be permitted. Where such areas are evident, they shall be brought to grade by placing compacted homogeneous material. The slope and slope face shall be uniformly compacted, and the depth of layers, homogeneity of soil, and amount of compaction shall be as required by the Engineer.
3. Excavation and preparation for anchor trenches, side trenches, and toe trenches or aprons shall be done in accordance to the lines, grades and dimensions shown in the Contract Drawings. The anchor trench hinge-point at the top of the slope shall be uniformly graded so that no dips or bumps greater than 0.5 inches over or under the local grade occur. The width of the anchor trench hinge-point shall also be graded uniformly to assure intimate contact between all cellular concrete blocks and the underlying grade at the hinge-point.
4. **Inspection.** Immediately prior to placing the filter fabric and cellular concrete blocks, the prepared subgrade shall be inspected by the Engineer as well as the owner's representative. No fabric or blocks shall be placed thereon until that area has been approved by each of these parties.

B. Placement of Geotextile Filter Fabric

1. **General.** Filter Fabric, or filtration geotextile, as specified elsewhere, shall be placed within the limits shown on the Contract Drawings.
2. **Placement.** The filtration geotextile shall be placed directly on the prepared area, in intimate contact with the subgrade, and free of folds or wrinkles. The geotextile shall not be walked on or disturbed when the result is a loss of intimate contact between the cellular concrete block and the geotextile or between the geotextile and the subgrade. The geotextile filter fabric shall be placed so that the upstream strip of fabric overlaps the downstream strip. The longitudinal and transverse joints shall be overlapped at least three (3) feet. The geotextile shall extend at least one foot beyond the top and bottom revetment termination points. If cellular concrete blocks are assembled and placed as large mattresses, the top lap edge of the geotextile should not occur in the same location as a space between cellular concrete mats unless the space is concrete filled.

C. Placement of Cellular Concrete Blocks/Mats

1. **General.** Cellular concrete block/mats, as specified in Part 2:A of these Specifications, shall be constructed within the specified lines and grades shown on the Contract Drawings.
2. **Placement.** The cellular concrete blocks shall be placed on the filter fabric in such a manner as to produce a smooth plane surface in intimate contact with the filter fabric. No individual block within the plane of placed cellular concrete blocks shall protrude more than one-half inch or as otherwise specified by the Engineer. To ensure that the cellular concrete blocks are flush and develop intimate contact with the subgrade, the blocks shall be "seated" with a roller or other means as approved by the Engineer.
3. Anchor trenches and side trenches shall be backfilled and compacted flush with the top of the blocks. The integrity of a soil trench backfill must be maintained so as to ensure a surface that is flush with the top surface of the cellular concrete blocks for its entire service life. Toe trenches shall be backfilled as shown on the Contract Drawings. Backfilling and compaction of trenches shall be completed in a timely fashion. No more than 500 linear feet of placed cellular concrete blocks with non-completed anchor and/or toe trenches shall be permitted at any time.
4. **Finishing.** The cells or openings in the cellular concrete blocks shall be backfilled and compacted immediately with suitable material to assure there are no voids and so that compacted material extends from the filter fabric to one-inch above the surface of the cellular concrete block. Backfilling and compaction shall be completed in a timely manner so that no more than 500 feet of exposed mats exist at any time.

5. **Consultation.** The manufacturer of the cellular concrete blocks shall provide design and construction advice during the design and initial installation phases of the project when required.

SECTION 15 - SANITARY SEWERS

15.0 SUMMARY

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.

RELATED DOCUMENTS

- A. Section 16 – “Internal Inspection of Storm and Sanitary Sewer Pipe: CCTV”

15.1 PIPE AND FITTINGS

- A. Ductile Iron (DI) Pipe:

This article covers the design and manufacture of ductile iron centrifugally cast on metal molds and ductile iron fittings.

Specific Requirements: Ductile iron pipe shall be furnished cement lined unless otherwise noted on the drawings or in other sections of these specifications. 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.

1. Pressure class shall be 250 psi for pipe sizes 20 inches or smaller and pressure class 200 psi for pipe sizes larger than 20 inches for mechanical and push-on joint pipe.
2. Thickness design of ductile iron shall conform in all aspects to the requirements of ANSI/AWWA C150/A 21.50 latest revision.
3. Manufacture and testing of ductile iron pipe shall conform in all aspects to the requirements of ANSI/AWWA C151/A 21.51 latest revisions.
4. Pipe Coatings
 - a. Interior Lining
 - 1) 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.

(2) 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. Lining shall be color white. Any request for substitution must be accompanied by a successful history of lining pipe and fittings for sewer service, a test report verifying the following properties, and a certification of the test results.

(a) A permeability rating of 0.00 when tested according to Method A of ASTM E-96-66, Procedure A with a test duration of 30 days.

(b) The following test must be run on coupons from factory lined ductile iron pipe:

(b1) ASTM B-117 Salt Spray (scribed panel) Results to equal 0.0 undercutting after two years.

(b2) ASTM G-95 Cathodic Disbondment 1.5 volts @ 77F. Results to equal no more than 0.5mm undercutting after 30 days.

(b3) Immersion Testing rated using ASTM 0-714-87.

- 20% Sulfuric Acid - No effect after two years.
- 25% Sodium Hydroxide - No effect after two years.
- 160F Distilled Water - No effect after two years.
- 120F Tap Water (scribed panel) - 0.0 undercutting after two years with no effect.

c) 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.

(3) Application

a) 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.

(b) 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-I 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.

(c) 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.

(d) 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.

(e) Number of Coats

The number of coats of lining material applied shall be as recommended by the lining manufacturer. However, in no case shall this material be applied above the dry thickness per coat recommended by the lining manufacturer in printed literature. The maximum or minimum time between coats shall be that time recommended by the lining material manufacturer. No material shall be used for lining which is not indefinitely recoatable with itself without roughening of the surface.

(f) Touch-Up and Repair

Protecto Joint Compound shall be used for touch-up or repair in accordance with manufacturer's recommendations.

(4) Inspection and Certification

(a) Inspection

(a1) 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.

(a2) 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.

(a3) Each pipe joint and fitting shall be marked with the date of application of the lining system along with its numerical sequence of application on that date and records maintained by the applicator of his work.

(b) Certification

The pipe or fitting manufacturer must supply a certificate attesting to the fact that the applicator met the requirements of this specification, and that the material used was as specified.

(5) 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.

(a). 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.

5. Fittings and gaskets for mechanical and push-on joint ductile and cast iron pipe shall conform to the latest revisions of ANSI/AWWA C111/A 21.10 for mechanical and push-on joint fittings, ANSI/AWWA C111/A 21.11 for gaskets, and ANSI/ AWWA C 153/ A21.53 for mechanical and push-on joint compact fittings. Mechanical and

push-on joint fittings shall have pressure class rating of 250 psi for sizes 20 inches and smaller and 200 psi for sizes larger than 20 inches.

6. All ductile and cast iron fittings shall be ductile iron grade 80-60-03 in accordance with ASTM A339-55.
7. Flanged ductile iron pipe shall conform to the latest revisions of ANSI/AWWA C115/A21.15. Bolt pattern of flange shall be in accordance with ANSI/AWWA C 115/A 21.15 (which is equivalent to ASME/ANSI B16.1, Class 125 flange bolt pattern). Pipe shall have pressure class 250 rating. Gaskets shall be synthetic rubber ring gaskets with a thickness of 1/8 inch. Nuts and bolts shall be in accordance with ASME/ANSI B18.2.1, ASME/ANSI B18.2.2, ASME/ANSI B1.1, and ASTM A307.
8. Flanged fittings shall conform to the latest revisions of ANSI/AWWA C110/A 21.10 or ANS/AWWA C153/A 21.53 (compact fittings). Gaskets shall be in accordance with ANSI/AWWA C111/A 21.11. Fittings shall have pressure class rating of 250 psi. Bolt pattern of flange shall be in accordance with ANSI/AWWA C115/A 21.15 (which is equivalent to ASME/ANSI B16.1, class 125 flange bolt pattern).
9. 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. All pipe inside of casing pipe shall have restraining gaskets.
10. Ball and socket restrained joint pipe and fittings shall be a boltless system equal to USIFLEX manufactured by U.S. Pipe & Foundry Company or FLEX-LOK manufactured by American Pipe Company. Pipe shall have a working pressure rating of 250 psi and have a maximum joint deflection of 15. Nominal laying lengths shall be in range of 18 feet 6 inches to 20 feet 6 inches.
11. Manufacturers

Pipe shall be as manufactured by U.S. Pipe & Foundry Company, Clow, American Cast Iron Pipe Company, or equal.
12. Marking

Pipe or fitting shall have the ANSI/AWW A standard, pressure (or thickness) class, diameter, DI or ductile noted, manufacturer, and country and year where cast on the outside of the body.
13. No separate pay item has been established for fittings and no determination of the number of fittings required on the job has been made. The Contractor, during the bidding phase, shall determine the number of fittings required on the job and include the cost of fittings and installation in the unit price for pipe.

B. Polyvinyl Chloride (PVC) Pipe

1. Solid Wall PVC Pipe (SDR 35)

- a. 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. All pipe shall have a pipe diameter to wall thickness ratio (SDR) of a maximum of 35.
- b. PVC pipe and fitting with diameters 18-inch through 27-inch 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.
- 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 not more than 13 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 shall have minimum pipe stiffness of 46 psi for each diameter when measured at 5 percent vertical ring deflection and tested in accordance with ASTM D 2412.
- h. Five (5) copies of directions for handling and installing the pipe shall be furnished to the Contractor by the manufacturer at the first delivery of pipe to the job. PVC pipe installation shall conform to ASTM D-2321 latest revision.
- i. Pipe shall be as manufactured by H & W Pipe Company, or equal.

15.2 PIPE LAYING

- A. 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. Supporting of pipe shall be as set out in Section 4 and in no case shall the supporting of pipe on blocks be permitted.
- B. Before each piece of pipe is lowered into the trench, it shall be thoroughly swabbed out to insure it is 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.
- C. 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.
- D. All pipe shall be laid starting at the lowest point and installed so that the spigot ends point in the direction of flow.

15.3 JOINTING

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.

15.4 UTILITY CROSSING CONCRETE ENCASEMENT

- A. At locations shown on the Drawings, required by the Specifications, or as directed by the Engineer, concrete piers 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 protection. 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 B (3000 psi) 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.
- D. Concrete for the Work is not a separate pay item and will be considered incidental to utility pipe installation.

15.5 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 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 or 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 +/- 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. The pipe line shall be made as nearly watertight as practicable, and leakage tests and measurements shall be made. All apparatus and equipment required for testing shall be furnished by the Contractor and the cost shall be included in the unit price bid for pipe and manholes.
1. The Engineer may require the Contractor to smoke test the first section (manhole to manhole) of each size of pipe and type of joint prior to backfilling, to establish and check laying and jointing procedures. The test shall consist of smoke blown into closed-off sections of sewer under pressure and observing any smoke coming from the pipe line indicating the presence of leaks. Other supplementary smoke tests prior to backfilling may be performed by the Contractor at his option; however, any such tests shall not supplant the final tests of the completed work unless such final tests are waived by the Engineer.
 2. Where the groundwater level is more than 1 foot above the top of the pipe at its upper end, the Contractor shall conduct either infiltration tests or low pressure air tests on the completed pipeline.
 3. Where the groundwater level is less than 1 foot above the top of the pipe at its upper end, the Contractor shall conduct either exfiltration tests or low pressure air tests on the completed pipeline.
- D. Low-pressure air tests shall be performed on all gravity sanitary sewers to verify watertightness of pipe joints and connections. The Contractor shall perform testing on each manhole-to-manhole section of sewer line after placement of backfill.

Testing of Polyvinyl Chloride (PVC) and Ductile Iron 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. Testing of reinforced concrete pipe sewer lines shall be performed in accordance with the current edition of ASTM C 924, "Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method."

All testing equipment shall be inspected by the Engineer to ensure that equipment is functioning properly.

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.

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. A copy of the completed Low-Pressure Air Test Report shall be provided to the Engineer for each test.

Pipes failing the pressure test will not be accepted and shall be repaired or replaced until a successful test is achieved.

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.

- E. Infiltration tests (for concrete pipe only) shall be made after underdrains, if present, have been plugged and other groundwater drainage has been stopped such that the groundwater is permitted to return to its normal level insofar as practicable.
 - 1. Upon completion of a section of the pipeline, the line shall be dewatered and a satisfactory test conducted to measure infiltration for at least 24 hours. The amount of infiltration, including manholes, tees and connections, shall not exceed 200 gallons per nominal inch diameter per mile of sewer per 24 hours.
- F. Exfiltration tests (for concrete pipe only) which subject the pipeline to an internal pressure, shall be made by plugging the pipe at the lower end and then filling the line and manholes with clean water to a height of 2 feet above the top of the sewer at its upper end. Where conditions between manholes may result in test pressures which would cause leakage at the plugs or stoppers in branches, provisions shall be made by suitable ties, braces and wedges to secure the plugs against leakage resulting from the test pressure.
 - 1. The rate of leakage from the sewers shall be determined by measuring the amount of water required to maintain the level 2 feet above the top of the pipe.
 - 2. Leakage from the sewers under test shall not exceed the requirements for leakage into sewers as hereinbefore specified.
- G. 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.
- H. 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
- I. If in the judgment of the Engineer, it is impracticable to follow the foregoing procedures for any reason, modifications in the procedures shall be made as required and as acceptable to the Engineer, but in any event, the Contractor shall be responsible for the ultimate tightness of the line within the above test requirements.

15.6 MANHOLES AND COVERS

A. DEFINITIONS

1. 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.
2. Shallow Manhole: A shallow manhole is defined as any manhole that is 5 feet or less in depth, as measured in the preceding sentence.

B. PRODUCTS

1. 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) shall be precast concrete sections. The top of the cone shall be built of reinforced concrete adjustment rings to permit 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. 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.
- e. For concrete manholes, the cast iron frames and covers shall be the standard frame and cover as indicated on the Drawings and specified herein.
- f. Manholes shall be manufactured by Kentucky Precast, or approved equal.

2. 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 diameter manholes.
- c. The wall sections shall be not less than 5 inches thick.
- d. Type II cement shall be used except as otherwise permitted.

3. CONCRETE MANHOLE - FRAMES AND COVERS

- a. The Contractor shall furnish all cast iron manhole frames and covers conforming to the Drawings or as specified herein.
- b. The castings shall be of good quality, strong, tough, even grained 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.
- c. All casting shall be thoroughly cleaned and subject to a careful hammer inspection.
- d. Castings shall be at least Class 25 conforming to the ASTM Standard Specifications for Gray Iron Casting, Designation A48, latest revision.
- e. Unless otherwise specified, manhole covers shall be 22-3/4 inches in diameter, weighing not less than 350 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.
- f. All covers shall be marked in large letters "SANITARY SEWER".

4. MANHOLE STEPS (CONCRETE MANHOLES)

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.

5. PREMOLDED ELASTOMERIC-SEALED JOINTS

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 Contour Seal or Kor-N-Seal manufactured by National Pollution Control Systems, Inc., Nashua, NH; A-Lok Manhole Pipe Seal manufactured by A-Lok Corporation, Trenton, NJ; or an approved equal.

6. POLYETHYLENE DIAPHRAGM

- a. Polyethylene 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 polyethylene copolymer material meeting ASTM Specification D 1248, Class A, Category 5, Type III (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 10 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.

7. CLEANOUTS

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.

8. DROP CONNECTIONS

Drop connections shall be installed in the manhole as shown on the Drawings. The pipe material inside the drop manhole shall be of the same material as the sanitary sewer line.

C. EXECUTION

1. FABRICATION - PRECAST SECTIONS

- a. Manhole sections shall contain manhole steps accurately positioned and embedded in the concrete when the section is cast.
- b. Sections shall be cured in an enclosed curing area and shall attain a strength of 4,000 psi prior to shipment.
- c. No more than two (2) lift holes or inserts 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.

2. 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. Rubber gaskets shall be installed in all manhole joints in accordance with the manufacturer's recommendations.
- c. All holes in sections used for their handling shall be thoroughly plugged with rubber plugs made specifically for this purpose.

3. 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 4 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 as described hereinafter in paragraphs B and C of this article.
- 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 3 inches to 5 inches 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 3 inches to 5 inches above existing grade shall be accomplished by the use of precast concrete or cast iron adjusting rings. If field changes have resulted in the completed manhole invert to be greater than the invert shown on the Drawings and the cover higher than 5 inches above existing grade, then the top of the eccentric cone, when used, or the top of the barrel section, when used, shall be trimmed down so that the manhole cover, after installation, is no greater than 5 inches above existing grade at the center of the cover. 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 by the use of precast concrete or cast iron adjusting rings. The adjusted cover shall conform to the elevation and slope of the surrounding area. If field changes have resulted in the installed manhole invert elevation to be so much higher than the invert elevation shown on the Drawings that the top of the eccentric cone, when used, or the top of the flat slab, when used, is less than the thickness of the frame and cover 7 inches from the grade of the surrounding area, then the top of the cone or barrel section shall be trimmed down enough to permit the cover, after installation, to conform to the elevation and slope of the surrounding area. After installation, the inside and outside surfaces shall receive a waterproofing bitumastic coating.
 - 1) If resurfacing of the street in which sewers are laid is expected within twelve (12) months, covers shall be set 1-1/2 inches above the existing pavement surface in anticipation of the resurfacing operations.

4. ADJUSTING SECTIONS

Only clean adjusting sections shall be used. Each adjusting section shall be laid in a bead of butyl mastic sealant and shall be thoroughly bonded.

5. SETTING MANHOLE FRAMES AND COVERS

- a. Manhole frames shall be set with the tops conforming to the required elevations set forth hereinbefore. Frames shall be set concentric with the top of the concrete and in a full bead of butyl mastic sealant so that the space between the top of the masonry and the bottom flange of the frame shall be completely watertight.
- b. Manhole covers shall be left in place in the frames on completion of other work at the manholes.

6. VACUUM TESTING (ASTM C1244)

a. Scope

- 1) This test method covers procedures for testing precast concrete manhole sections when using the vacuum test method to demonstrate the integrity of the installed materials and the construction procedures. This test method is used for testing concrete manhole sections utilizing mortar, mastic, or gasketed joints.
- 2) This test method is intended to be used as a preliminary test to enable the installer to demonstrate the condition of the concrete manholes prior to backfill. It may also be used to test manholes after backfilling; however, testing should be correlated with the connector supplier.
- 3) This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.
- 4) This test method is the companion to metric Test Method C 1244M; therefore, no SI equivalents are shown in this test method.

b. References, ASTM Standards:

- 1) C 822 Terminology Relating to Concrete Pipe and Related Products.
- 2) C 924 Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method.
- 3) C 969 Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.

c. Terminology

For definitions of terms relating to manholes, see Terminology C 822.

d. Summary of Practice

All lift holes and any pipes entering the manhole are to be plugged. A vacuum will be drawn and the vacuum drop over a specified time period is used to determine the acceptability of the manhole.

e. Significance and Use

This is not a routine test. The values recorded are applicable only to the manhole being tested and at the time of testing.

f. Preparation of the Manhole

- 1) All lift holes shall be plugged.
- 2) All pipes entering the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.

g. Procedure

- 1) The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
- 2) A vacuum of 10 inches of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 inches of mercury.
- 3) The manhole shall pass if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury meets or exceeds the values indicated in the following table:

Minimum Test Times for Various Manhole Diameters (seconds)									
Depth (ft)	Diameter (inches)								
	30	33	36	42	48	54	60	66	72
1	1	2	2	2	2	3	3	4	4
2	3	3	4	4	5	6	7	7	8
3	4	5	5	6	7	9	10	11	12
4	6	6	7	9	10	12	13	15	16
5	7	8	9	11	12	14	16	18	20
6	8	10	11	13	15	17	20	22	24
7	10	11	12	15	17	20	23	26	28
8	11	12	14	17	20	23	26	29	33
10	14	15	18	21	25	29	33	36	41
12	17	18	21	25	30	35	39	43	49
14	20	21	25	30	35	41	46	51	57
16	22	24	28	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	58	65	72	81
22	31	33	39	46	55	64	72	79	89
24	33	36	42	51	59	69	78	87	97
26	36	39	46	55	64	75	85	94	105
28	39	42	49	59	69	81	91	101	113
30	42	45	53	63	74	87	98	108	121

- 4) If the manhole fails the initial test, necessary repairs shall be made by an approved method. The manhole shall then be retested until a satisfactory test is obtained.
- 5) Use or failure of this vacuum test shall not preclude acceptance by appropriate water infiltration or exfiltration testing, (see Practice C 969), or other means.

h. Precision and Bias

No justifiable statement can be made either on the precision or bias of this procedure, since the test result merely states whether there is conformance to the criteria for the success specified.

15.7 BYPASS PUMPING

The contractor shall provide all labor, supervision, tools, equipment, appliances, and materials to perform all operations in connection with pumping sewage and wet weather flows around pipe segments, to prevent sewage overflows and provide reliable sewer at all times. The Contractor shall provide and maintain adequate pumping equipment, force mains and other necessary appurtenances. The contractor shall have backup pumps, force mains

and appurtenances ready to deploy immediately. Appurtenances and discharge point shall be approved by the Inspector. The Contractor shall demonstrate that the pumping system is in good working order and is sufficiently sized to successfully handle flows. Any spillage, backups or overflows is the sole responsibility of the Contractor.

15.8 MEASUREMENTS AND PAYMENT

The Owner will make payment for the completed and accepted quantities under the following:

<u>Pay Item</u>	<u>Pay Unit</u>
8" Ductile Iron Sanitary Sewer	Linear Foot
Sanitary Sewer Manhole and cover	Each
Temporary Bypass Pumping	Incidental to Sanitary Sewer
8" PVC	Linear Foot
Drop Manhole	Each

SECTION 16 – INTERNAL INSPECTION OF STORM & SANITARY SEWER PIPE: CCTV

16.0 SCOPE

A CLOSED CIRCUIT TELEVISION (CCTV) survey is required for all newly installed sewer pipe, whether RCP or HDPE and/or any designated existing pipe. The television survey shall be performed by an experienced CCTV Contractor approved by the LFUCG Division of Water Quality.

The CCTV inspections should be performed by the approved contractor a minimum of thirty (30) days after any new pipe has been backfilled, unless otherwise approved by the Engineer.

16.1 GENERAL

All lines designated and/or designed by the Engineer shall be internally inspected. The purpose of the inspection is to locate structural damage that may be present in the collection pipe.

Any structural damage found in the pipe impairing the CCTV inspection, shall be documented and the Engineer should be notified immediately. The Engineer and Owner will evaluate the damage and, if cost-effective, the Engineer will notify the Contractor in writing to proceed with cleaning or additional repairs. These repairs will be made at the unit prices shown on the Contractor's Bid Proposal.

The Owner makes no guarantee that all of the sewers to be entered are clear for the passage of a camera. The methods used for securing passage of the camera are to be at the option of the Contractor, and the costs must be included in the bid price for television inspection. The cost of retrieving the television camera, under all circumstances, when it becomes lodged during inspection, shall be incidental to this portion of the work.

16.2 EQUIPMENT

The CCTV mainline inspection system television shall be one specifically designed and constructed for such inspection. The inspection system shall be able to perform pan/tilt or pan/rotate operations. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe. The system shall be operable in 100 percent humidity conditions. The camera, television monitor and other components of the CCTV system shall be capable of producing a minimum 500-line resolution video picture. Picture quality and definition shall be to the satisfaction of the Engineer and if unsatisfactory, equipment shall be removed and no payment made for unsatisfactory inspection.

16.3 RECOMMENDED METHOD FOR INTERNAL INSPECTION

After thoroughly cleaning the pipe, the camera shall be moved through the sewers in the downstream direction at a uniform rate not to exceed 30 ft./min., stopping when necessary to insure proper documentation of the sewer's condition. Manual winches, power winches, TV cable and power rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions may be used to move the camera through the sewer line.

If during the inspection operation, the television camera will not pass through the entire manhole section, the Contractor shall set up his equipment so that the inspection can be performed from the opposite manhole. If the camera again fails to pass through the entire manhole section, the Contractor shall notify the Engineer of the situation.

16.4 INSPECTION LOGS AND CD/DVDS

All CD/DVDS, and logs shall be labeled with the Contractors Name, Contract number, DVD number (logs must match that number) and with each Contractor the DVD/ logs must start at number 1 and progress upward till the end of this contract.

A log approved by the Engineer shall be provided for all line inspections listing the watershed, line segment ID, line segment location, upstream manhole depth, downstream manhole depth, pipe diameter, pipe material, defects and defect ratings, also see notes above. Printed and digital records shall be kept by the Contractor and will clearly show the location of each infiltration point observed during inspection. In addition, other points of significance such as locations of service connections, unusual conditions, roots, storm sewer connections, damaged pipe, presence of scale and corrosion and other discernable features will be recorded and a copy of such records in both hard copy and digital format will be supplied to the Engineer. The digital records must be in a Microsoft Database format (.mdb file extension) or other format approved by the Engineer. A key to all observations used shall be included on each log sheet.

The locations of all the defective areas to be repaired will be identified by logging the distance frame at each defect or point of interest measured from the center of the starting manhole to the plane of focus of the camera. The importance of accurate distance measurements is emphasized. Confirmation of measurement for location of defects shall be above ground by means of a meter device. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape or other suitable device, and the accuracy shall be satisfactory to the Engineer. Marking on the cable or the like, which would require interpolation for depth of manhole, will not be allowed.

The purpose of DVD recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. DVD recording playback shall be at the same speed that it was recorded. DVDs shall be considered property of the Owner and the Contractor shall possess backup copy of all DVDs until completion of the Contract. All CCTV work

done must be recorded on DVD's using the software Visual Pipes and the Contractor must supply the LFUCG a readable copy of said software to view these DVD's.

16.5 FINAL ACCEPTANCE

Acceptance of this portion of work shall be made upon the successful review of the DVD submitted to the LFUCG. If the DVDs are of such poor quality and/or the sewer line needs additional cleaning that the Owner is unable to evaluate the condition of the sewer line or to locate service connections, the Contractor shall be required to re-televiser and provide a suitable DVD of the line at no additional cost. If a suitable DVD cannot be provided of such quality that the Owner can review it, no payment shall be made for additional cleaning and/or closed circuit television (CCTV). Also, no payment shall be made for portions of lines not televised or portions where manholes cannot be negotiated with the television camera.

16.5 BASIS OF PAYMENT

Accepted quantities for Internal Inspection of Storm & Sanitary Sewer Pipe: CCTV will be paid for at the Contract Unit Price as quoted per linear foot (which shall be full compensation for all Work required under this Section) and paid per foot satisfactorily inspected. All labor, cleaning, materials, equipment, and excavation shall be incidental to the Internal Inspection of Storm & Sanitary Sewer Pipe: CCTV.

SECTION 17 – STORM WATER QUALITY UNIT

17.0 SCOPE

- A. Work described in this section includes furnishing all labor, equipment, materials, tools and incidentals required for a complete and operable installation of the Storm Water Quality Unit system as shown on the drawings and specified herein.
- B. The manufacturer shall design and supply the equipment listed herein and the Contractor shall install the equipment in accordance with the manufacturer's Handling, Storage, and Installation Instructions.

17.1 GENERAL REQUIREMENTS

- A. The Storm Water Quality Unit shall be a passive system capable of separating pollutants from stormwater runoff. The system shall be self-activating with no mechanical parts or external power requirements.
- B. Upon request, independently certified performance data and references shall be made available to the Engineer of Record for use in determining that the Storm Water Quality Unit meets the design criteria and performance requirements stated herein.

17.2 SUBMITTALS

- A. Submittals shall be provided and shall include the following:
 - 1. Site plan showing location and orientation of proposed pipe sizes, connections and excavation limits.
 - 2. Product installation drawings showing plan and elevation views with water elevations for the flow conditions specified herein.
 - 3. Performance data.
 - 4. Inspection and maintenance procedures with accompanying maintenance video and upon request, three references for verifying successful completion of the maintenance procedures and associated costs.

17.3 QUALITY ASSURANCE

- A. Inspection
The Storm Water Quality Unit shall be subject to inspection by the Engineer of Record or the owner's representative at either the place of manufacture or the project site. Any and all observed defects shall be repaired to the satisfaction of the owner or owner's representative or replacement shall be made available.

- B. **Warranty**
The manufacturer shall guarantee the Storm Water Quality Unit from defects in materials and workmanship for a period of two years following installation. If during the warranty period defects in materials or workmanship are noted, then the manufacturer shall be promptly notified. The decision to repair or replace affected units shall be made at the discretion of the manufacturer.
- C. **Patent Indemnity**
Upon request, the manufacturer shall warrant that the Storm Water Quality Unit does not infringe upon or violate any patent, copyright, trade secret or any other proprietary right of any third party and shall indemnify the Owner against any loss, cost, expense or liability arising out of such claim whether or not such claim is successful.
- D. **Certificate of Compliance**
Upon request, the manufacturer shall provide a “Letter of Certification” to certify that the Storm Water Quality Unit adheres to the specifications required herein and complies with the project’s stormwater management permit.

17.4 MANUFACTURER

- A. The Storm Water Quality Unit shall be supplied by a manufacturer regularly engaged in such work who has furnished similar installations that have been in successful and continuous operation for a minimum period of five years.
- B. The Storm Water Quality Unit shall be certified by the Kentucky Department for Environmental Protection (DEP) or industry verification or assessment agency (e.g.: ETV, NJCAT).

17.5 STORM WATER QUALITY UNIT

- A. Storm Water Quality Units shall have a smooth interior and annular exterior corrugations meeting the requirements of ASTM F2737.
- B. The unit shall have at least three containment zones, each zone separated from the next by use of a weir or baffle plate. Weir and baffle plates shall be welded at all interfaces between the plate and water quality unit. First weir plate shall incorporate a saw tooth design and shall be reinforced with stiffeners positioned horizontally on the downstream side of the plate to be retained.
- C. Storm Water Quality Units shall provide adequate clean-out and inspection access.
- D. The storage capacities for pollutants that settle (sediment) and float (oil) shall not be less than the volumes listed in Table 1. The Hydrodynamic Separator shall operate as intended and perform as specified herein as pollutants accumulate. The storage capacity for pollutants that settle shall not reduce the volume required in the Hydrodynamic Separator for separation and for preventing re-suspension and washout, or reduce the floatables storage volume capacity.

- E. Minimum 24-inch openings shall provide access to each of the sediment and oil storage chambers from the surface for inspection and maintenance. Removal of pollutants from the Storm Water Quality Unit shall be possible without requiring confined space entry.

17.6 PERFORMANCE

- A. Performance of the Storm Water Quality Unit shall be based on independent full-scale laboratory and/or field testing and shall adhere to the Performance Specifications listed in Table 1.

Diameter (feet)	Treated Water Quality Flow Rate (cfs)	Scour Flow Rates (cfs)	Minimum Floatables Capacity (CF)	Minimum Sediment Storage Capacity (CF)
5	8.74	13.3	184	385

Notes:

- 1 Required treatment flow rate may be attained by incorporating multiple parallel units connected by high flow bypass structure.
 - 2 Maximum Treatment Flow Rates shall be based on removing target particle sizes of 50 microns.
 - 3 Scour Flow Rates are based on testing that demonstrates retention of captured sediment having a D50 of 100. Effluent concentrations shall not exceed 20 mg/L.
- B. Water Quality Units shall remove a minimum of 80% of the first flush total suspended solids (TSS) based on flow rates and corresponding sieve sizes shown in Table 1. Water Quality units shall be installed “offline” to prevent re-suspension of solids in high flow situations. Offline installation shall be constructed utilizing a high flow by-pass structure. Flow through the unit shall be controlled by an orifice fabricated on the outlet end of the structure.

17.7 MATERIALS

- A. The Water Quality Unit shall be manufactured with materials typically used in stormwater drainage systems that have a minimum life expectancy of 30 years.
- B. Virgin material for pipe & fittings used to produce Storm Water Quality Units shall be high density polyethylene conforming with the minimum requirements of cell classification 435400C for 12- through 60-inch (300 to 1500mm) diameters as defined and described in the latest version of ASTM D3350. The virgin pipe material shall be evaluated using the notched constant ligament-stress (NCLS) test as specified in Sections

9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively. All smooth baffle and weir plates shall be high density polyethylene.

17.8 DELIVERY

- A. The Storm Water Quality Unit components shall be delivered within six weeks of date of approved technical submittal.
- B. The Storm Water Quality Unit components shall be preassembled and delivered to the site fully fabricated and ready for the final assembly.
- C. Off-loading, storage, and installation shall be by the Contractor.
- D. The Contractor shall inspect and provide signed acceptance of equipment prior to unloading, or notify the manufacturer of any damage to equipment to effect proper remedial action.

17.9 INSTALLATION

- A. The system shall be installed in strict accordance with the site plans, and the manufacturer's general arrangement drawings and Handling, Storage and Installation Instructions. The Contractor shall be responsible for installing the equipment and all necessary site connections.
- B. The Manufacturer shall be notified immediately of any equipment which is damaged during unloading, storage, or installation. The damaged equipment shall be repaired or replaced at the discretion of the manufacturer and entirely at the Contractor's expense.
- C. Installation shall be in accordance with the ADS recommended installation guidelines, utilizing a class I (ASTM D2321) structural backfill material or flowable fill (CLSM – Controlled Low Strength Material).

SECTION 18 - POROUS FLEXIBLE PAVEMENT

18.0 SCOPE

- A. Work described in this section includes furnishing all labor, equipment, materials, tools and incidentals required for a complete installation of the Porous Flexible Pavement as shown on the drawings and specified herein.
- B. The manufacturer shall design and supply the materials listed herein and the Contractor shall install the materials in accordance with the manufacturer's Handling, Storage, and Installation Instructions.

18.1 REFERENCES

- A. The American Society of Testing and Materials (ASTM)
- B. American Association of State Highway and Transportation Officials (AASHTO)
- C. American Society of Landscape Architects (ASLA)

18.2 SYSTEM DESCRIPTION

- A. The porous pavement system shall provide vehicular and pedestrian load support over the grass areas, while protecting grass from harmful effects of traffic.
- B. Major Components of the Complete System
 - 1. High density polyethylene (HDPE) containment system
 - 2. Engineered base support soil (if required)
 - 3. Selected topsoil
 - 4. Selected grass seed mixtures
- C. Both the (HDPE) containment system and base support soil (if required) shall work together to support imposed loading.
- D. Both the (HDPE) containment system and topsoil shall contribute to vegetation support.

18.3 SUBMITTALS

- A. Product Data: Submit manufacturer's product data.
- B. Shop Drawings: Submit manufacturer's drawings including general laying pattern, cross section and anchoring.
- C. Samples: Submit manufacturer's sample.
- D. Installation Instructions: Manufacturer's printed installation instructions. Include methods for maintaining installed products.
- E. Manufacturer's warranty.

18.4 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage: Store materials in accordance with manufacturer's instructions.
- C. Handling: Protect materials during handling and installation to prevent damage.

18.5 MAINTENANCE SERVICE

- A. Installer shall be responsible for maintenance of grass plants – water/irrigation, fertilizing, mowing – for one growing season.

18.6 PROJECT CONDITIONS

- A. Maintain environmental conditions within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Install turf when ambient air temperature is at least 55 degrees F.
- C. In cold weather, do not use frozen materials or materials mixed or coated with ice or frost, and do not build on frozen base or wet, saturated or muddy subgrade.
- D. Protect partially completed paving against damage from other construction traffic when work is in progress.
- E. Adequately water sod or grass seed to assure germination of seed and growth of root system.
- F. Do not drive on system for two or three mowing cycles until grass root system has matured (about 3 to 4 weeks for sod or 6 to 8 weeks for seeded areas).

18.7 WARRANTY

- A. Manufacturer shall warrant all materials to be free from defects in materials and workmanship at the time of manufacture, and shall bear the costs for replacement of any unit which proves to be defective under normal use and service during the 5-year period which begins on the date of shipment.
- B. Materials submitted that do not offer a written 5-year warranty will be rejected.
- C. Warranty shall not cover defects attributable to causes or occurrences beyond manufacturer's control and unrelated to the manufacturing process, including, but not

limited to, abuse, misuse, mishandling, neglect, improper storage, improper installation or improper application.

18.8 PRODUCT MATERIALS

A. Manufacturer's

1. Acceptable manufacturer's include, but are not limited to the following:
 - a. Invisible Structures, Inc. – Grasspave2
 - b. Presto Geosystems – Geoblock
 - c. TrueGrid – TrueGrid
 - d. Terrafirm Enterprises - EcoGrid

B. Materials:

1. Manufactured in the USA.
2. High density polyethylene (HDPE): Up to 100 percent recycled materials.
3. Color: black
4. Color Uniformity: Uniform color throughout all units.
5. Chemical Resistance: Superior.
6. Carbon Black for Ultraviolet Light Stabilization: 1.5 to 2.0 percent.

C. Performance Properties:

1. Unit Minimum Crush Strength (Sand-Filled) at 70 degrees F: 5,700 psi
2. Flexural Modulus at 70 degrees F: 35,000 psi.
3. Runoff Coefficient at 2.5 inches Per Hour Rainfall: 0.15

18.9 SUBGRADE AND BASE PREPARATION

A. Verify site conditions are as indicated on the drawings. Notify the engineer if site conditions are not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.

B. Subgrade Preparation:

1. Verify subgrade is in accordance with porous paving system manufacturer's instructions.
2. Excavate area allowing for unit thickness and the engineered base depth.
3. Provide adequate drainage from excavated area if area has potential to collect water, when working with in-place soils that have poor permeability.
4. Ensure in-place soil is relatively dry and free from standing water.

5. Uniformly grade base.
6. Level and clear base of large objects, such as rocks and pieces of wood.

C. Base Preparation:

1. Verify engineered base is installed in accordance with porous paving system manufacturer's instructions.
2. Place a geotextile separation layer between the natural ground and the 'engineered base'.
3. Place engineered base thickness of 12.
4. Place engineered base of clear stone or crushed rock, homogenously blended with topsoil.
5. Ensure aggregate portion of base is free from fines and has a known percentage void-space of 30% or greater when compacted. Particle size should range in size from 0.375 to 1.0 inch.
6. Add and blend topsoil before placement equal to void percentage in aggregate.
7. Pulverized topsoil portion shall equal plus or minus 25% of the total volume and be added and blended to produce a homogenous mixture prior to placement.
8. Compact the mixture to 95% Standard Proctor.

18.10 INSTALLATION

A. Install units in accordance with porous paving system manufacturer's instructions.

B. Installing Units:

1. Place units with long direction of unit perpendicular to direction of traffic. Ensure final seam pattern has seams perpendicular to traffic flow straight and seams parallel to traffic flow staggered.
3. Cut units with a hand or power saw to custom fit contours and around obstructions.
4. Ensure required traffic load transfer and support.
5. Place first row of units against a stationary edge, when available. If the units are placed between two perpendicular stationary edges, allow for potential thermal expansion of the units by keeping the units away from the stationary edge.
6. Prevent units from shifting during installation with placement of one of the following:
 - a. Temporary wood stakes or permanent metal stakes through holes in units.

C. Anchoring of Units:

1. Anchor units in-place after installation of all the units within the defined area.
2. Anchor units with 0.5 inch #4 rebar to prevent movement of the units.
3. Anchor length shall be 12.0 inches.
4. Drive the anchors through the holes in the units along the perimeter.

D. Infilling Units – Vegetated Systems:

1. Infill units with suitable topsoil immediately after units are installed to minimize potential of joint separation.
2. Spread topsoil infill uniformly over units to a level even with the top of the cell wall.
3. Use spreading methods to prevent over-compaction of cell infill.

18.11 SEED AND GRASSING

A. Finish in accordance with manufacturer's instructions.

B. Seeding:

1. Follow good seeding, fertilizing, and watering procedures for turf establishment based on regional practices as specified in Section: Landscaping.
2. Seed mixture shall be as specified in Section: Landscaping.

18.12 MAINTENANCE

A. Maintain grass in accordance with Section: Landscaping.

END OF SECTION