CALL NO. 106

CONTRACT ID. 151006

MCCRACKEN COUNTY

FED/STATE PROJECT NUMBER STP 7630 (011)

DESCRIPTION KENTUCKY AVENUE(US-45X)

WORK TYPE JPC PAVEMENT

PRIMARY COMPLETION DATE 12/15/2015

LETTING DATE: February 20,2015

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME February 20,2015. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 3%

REQUIRED BID PROPOSAL GUARANTY: Not less than 5% of the total bid.

TABLE OF CONTENTS

PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 01

CONTRACT ID - 151006

STP 7630 (011)

COUNTY - MCCRACKEN

PCN - DE073045X1506
STP 7630 (011)

KENTUCKY AVENUE(US-45X) REMOVE AND REPLACE JPC PAVEMENT ON US-45X FROM JUST WEST OF OTIS DINNING DR(MP 0.423) TO PAL RAIL CROSSING(MP 1.433).JPC PAVEMENT SYP NO. 01-02040.00.

GEOGRAPHIC COORDINATES LATITUDE 37:02:00.00 LONGITUDE 88:42:00.00

COMPLETION DATE(S):

COMPLETED BY 12/15/2015 APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

BID SUBMITTAL

Bidder must use the Department's Expedite Bidding Program available on the Internet web site of the Department of Highways, Division of Construction Procurement. (www.transportation.ky.gov/construction-procurement)

The Bidder must download the bid file located on the Bid Express website (www.bidx.com) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

JOINT VENTURE BIDDING

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

UNDERGROUND FACILITY DAMAGE PROTECTION

The contractor is advised that the Underground Facility Damage Protection Act of 1994, became law January 1, 1995. It is the contractor's responsibility to determine the impact of the act regarding this project, and take all steps necessary to be in compliance with the provision of the act.

SPECIAL NOTE FOR PIPE INSPECTION

Contrary to Section 701.03.08 of the 2012 Standard Specifications for Road and Bridge Construction and Kentucky Method 64-114, certification by the Kentucky Transportation Center for prequalified Contractors to perform laser/video inspection is not required on this contract. It will continue to be a requirement for the Contractor performing any laser/video pipe inspection to be prequalified for this specialized item with the Kentucky Transportation Cabinet-Division of Construction Procurement.

SPECIAL NOTE FOR COMPOSITE OFFSET BLOCKS

Contrary to the Standard Drawings (2012 edition) the Cabinet will allow 6" composite offset blocks in lieu of wooden offset blocks, except as specified on proprietary end treatments and crash cushions. The composite blocks shall be selected from the Cabinet's List of Approved Materials.

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by KRS 14A.9-010 to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under KRS 14A.9-030 unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in KRS 14A.9-010, the foreign entity should identify the applicable exception. Foreign entity is defined within KRS 14A.1-070.

For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.

Businesses can register with the Secretary of State at https://secure.kentucky.gov/sos/ftbr/welcome.aspx .

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to kytc.projectquestions@ky.gov. The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website (www.transportation.ky.gov/contract). The answers provided shall be considered part of

this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

HARDWOOD REMOVAL RESTRICTIONS

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

ACCESS TO RECORDS

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004. (See attachment)

10/29/12

Commonwealth of Kentucky
Finance and Administration Cabinet
OFFICE OF THE SECRETARY
Room 383, Capitol Annex
702 Capital Avenue
Frankfort, KY 40601-3462
(502) 564-4240
Fax (502) 564-6785

Steven L. Beshear
Governor

Lori H. Flanery
Secretary

SECRETARY'S ORDER 11-004

FINANCE AND ADMINISTRATION CABINET

Vendor Document Disclosure

WHEREAS, in order to promote accountability and transparency in governmental operations, the Finance and Administration Cabinet believes that a mechanism should be created which would provide for review and assistance to an Executive Branch agency if said agency cannot obtain access to documents that it deems necessary to conduct a review of the records of a private vendor that holds a contract to provide goods and/or services to the Commonwealth; and

WHEREAS, in order to promote accountability and transparency in governmental operations, the Finance and Administration Cabinet believes that a mechanism should be created which would provide for review and assistance to an Executive Branch agency if said agency cannot obtain access to documents that it deems necessary during the course of an audit, investigation or any other inquiry by an Executive Branch agency that involves the review of documents; and

WHEREAS, KRS 42.014 and KRS 12.270 authorizes the Secretary of the Finance and Administration Cabinet to establish the internal organization and assignment of functions which are not established by statute relating to the Finance and Administration Cabinet; further, KRS Chapter 45A.050 and 45A.230 authorizes the Secretary of the Finance and Administration Cabinet to procure, manage and control all supplies and services that are procured by the Commonwealth and to intervene in controversies among vendors and state agencies; and

NOW, THEREFORE, pursuant to the authority vested in me by KRS 42.014, KRS 12.270, KRS 45A.050, and 45A.230, I, Lori H. Flanery, Secretary of the Finance and Administration Cabinet, do hereby order and direct the following:

I. Upon the request of an Executive Branch agency, the Finance and Administration Cabinet ("FAC") shall formally review any dispute arising where the agency has requested documents from a private vendor that holds a state contract and the vendor has refused access to said documents under a claim that said documents are not directly pertinent or relevant to the agency's inquiry upon which the document request was predicated.

II. Upon the request of an Executive Branch agency, the FAC shall formally review any situation where the agency has requested documents that the agency deems necessary to

conduct audits, investigations or any other formal inquiry where a dispute has arisen as to what documents are necessary to conclude the inquiry.

III. Upon receipt of a request by a state agency pursuant to Sections I & II, the FAC shall consider the request from the Executive Branch agency and the position of the vendor or party opposing the disclosure of the documents, applying any and all relevant law to the facts and circumstances of the matter in controversy. After FAC's review is complete, FAC shall issue a Determination which sets out FAC's position as to what documents and/or records, if any, should be disclosed to the requesting agency. The Determination shall be issued within 30 days of receipt of the request from the agency. This time period may be extended for good cause.

IV. If the Determination concludes that documents are being wrongfully withheld by the private vendor or other party opposing the disclosure from the state agency, the private vendor shall immediately comply with the FAC's Determination. Should the private vendor or other party refuse to comply with FAC's Determination, then the FAC, in concert with the requesting agency, shall effectuate any and all options that it possesses to obtain the documents in question, including, but not limited to, jointly initiating an action in the appropriate court for relief.

V. Any provisions of any prior Order that conflicts with the provisions of this Order shall be deemed null and void.

FEDERAL CONTRACT NOTES

The Kentucky Department of Highways, in accordance with the Regulations of the United States Department of Transportation 23 CFR 635.112 (h), hereby notifies all bidders that failure by a bidder to comply with all applicable sections of the current Kentucky Standard Specifications, including, but not limited to the following, may result in a bid not being considered responsive and thus not eligible to be considered for award:

102.02 Current Capacity Rating 102.10 Delivery of Proposals
102.08 Irregular Proposals 102.14 Disqualification of Bidders
102.09 Proposal Guaranty

CIVIL RIGHTS ACT OF 1964

The Kentucky Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Federal Department of Transportation (49 C.F.R., Part 21), issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin.

NOTICE TO ALL BIDDERS

To report bid rigging activities call: 1-800-424-9071.

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECOND TIER SUBCONTRACTS

Second Tier subcontracts on federally assisted projects shall be permitted. However, in the case of DBE's, second tier subcontracts will only be permitted where the other subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

It is the policy of the Kentucky Transportation Cabinet ("the Cabinet") that Disadvantaged Business Enterprises ("DBE") shall have the opportunity to participate in the performance of highway construction projects financed in whole or in part by Federal Funds in order to create a level playing field for all businesses who wish to contract with the Cabinet. To that end, the Cabinet will comply with the regulations found in 49 CFR Part 26, and the definitions and requirements contained therein shall be adopted as if set out verbatim herein.

The Cabinet, contractors, subcontractors, and sub-recipients shall not discriminate on the basis of race, color, national origin, or sex in the performance of work performed pursuant to Cabinet contracts. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted highway construction projects. The contractor will include this provision in all its subcontracts and supply agreements pertaining to contracts with the Cabinet.

Failure by the contractor to carry out these requirements is a material breach of its contract with the Cabinet, which may result in the termination of the contract or such other remedy as the Cabinet deems necessary.

DBE GOAL

The Disadvantaged Business Enterprise (DBE) goal established for this contract, as listed on the front page of the proposal, is the percentage of the total value of the contract.

The contractor shall exercise all necessary and reasonable steps to ensure that Disadvantaged Business Enterprises participate in a least the percent of the contract as set forth above as goals for this contract.

OBLIGATION OF CONTRACTORS

Each contractor prequalified to perform work on Cabinet projects shall designate and make known to the Cabinet a liaison officer who is assigned the responsibility of effectively administering and promoting an active program for utilization of DBEs.

If a formal goal has not been designated for the contract, all contractors are encouraged to consider DBEs for subcontract work as well as for the supply of material and services needed to perform this work.

Contractors are encouraged to use the services of banks owned and controlled by minorities and women.

CERTIFICATION OF CONTRACT GOAL

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE ACCEPTED. These bids will not be considered for award by the Cabinet and they will be returned to the bidder.

"The bidder certifies that it has secured participation by Disadvantaged Business Enterprises ("DBE") in the amount of ____ percent of the total value of this contract and that the DBE participation is in compliance with the requirements of 49 CFR 26 and the policies of the Kentucky Transportation Cabinet pertaining to the DBE Program."

The certification statement is located in the electronic bid file. All contractors must certify their DBE participation on that page. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted.

DBE PARTICIPATION PLAN

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 63-35 DBE, within 10 days of the letting. This is necessary before the Awards Committee will review and make a recommendation. **The project will not be considered for award prior to submission and approval of the apparent low bidder's DBE Plan/Subcontractor Request.**

The DBE Participation Plan shall include the following:

1 Name and address of DBE Subcontractor(s) and/or supplier(s) intended to be used in the proposed project;
2 Description of the work each is to perform including the work item , unit, quantity, unit price and total amount of the work to be performed by the individual DBE. The Project Code Number (PCN), Category Number, and the Project Line Number can be found in the "material listing" on the Construction Procurement website under the specific letting;
3 The dollar value of each proposed DBE subcontract and the percentage of total project contract value this represents. DBE participation may be counted as follows; a) If DBE suppliers and manufactures assume actual and contractual responsibility, the dollar value of materials to be furnished will be counted toward the goal as follows:

- The entire expenditure paid to a DBE manufacturer;
- 60 percent of expenditures to DBE suppliers that are not manufacturers provided the supplier is a regular dealer in the product involved. A regular dealer must be engaged in, as its principal business and in its own name, the sale of products to

the public, maintain an inventory and own and operate distribution equipment; and

- The amount of fees or commissions charged by the DBE firms for a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.

b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;

c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;

4 Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and

5 Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

Contractors must submit the signed subcontract between the contractor and the DBE contractor, the DBE's certificate of insurance, and an affidavit for bidders, offerors, and contractors from the DBE to the Division of Construction Procurement. The affidavit can be found on the Construction Procurement website. If the DBE is a supplier of materials for the project, a signed purchase order and an affidavit for bidders, offerors, and contractors must be submitted to the Division of Construction Procurement.

Changes to DBE Participation Plans must be approved by the Cabinet. The Cabinet may consider extenuating circumstances including, but not limited to, changes in the nature or scope of the project, the inability or unwillingness of a DBE to perform the work in accordance with the bid, and/or other circumstances beyond the control of the prime contractor.

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set and nine (9) copies of this information must be received in the

office of the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

Where the information submitted includes repetitious solicitation letters it will be acceptable to submit a sample representative letter along with a distribution list of the firms solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal as necessary to demonstrate compliance with the factors listed below which the Cabinet considers in judging good faith efforts. This documentation may include written subcontractors' quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

The Good Faith Effort Package shall include, but may not be limited to information showing evidence of the following:

1 Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2 Whether the bidder provided solicitations through all reasonable and available means;
3 Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4 Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainly whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the DBE Liaison in the Office of Minority Affairs to give notification of the bidder's inability to get DBE quotes;
5 Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces;
6 Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract;
7 Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached;
8 Whether quotations were received from interested DBE firms but were rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firm's quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE goals;
9 Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
10 Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the

work requirements of the bid proposal; and

11 Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.

FAILURE TO MEET GOOD FAITH REQUIREMENT

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Good Faith Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. The bidder will be notified of the Committee's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of the Committee's decision. The reconsideration meeting will be held within two days of the receipt of a request by the bidder for reconsideration.

The request for reconsideration will be heard by the Office of the Secretary. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration explaining the basis for the finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so.

The result of the reconsideration process is not administratively appealable to the Cabinet or to the United States Department of Transportation.

The Cabinet reserves the right to award the contract to the next lowest responsive bidder or to rebid the contract in the event that the contract is not awarded to the low bidder as the result of a failure to meet the good faith requirement.

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

Failure by the prime contractor to fulfill the DBE requirements of a project under contract or to demonstrate good faith efforts to meet the goal constitutes a breach of contract. When this occurs, the Cabinet will hold the prime contractor accountable, as would be the case with all other contract provisions. Therefore, the contractor's failure to carry our the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- Disallow credit toward the DBE goal;
- Withholding progress payments;
- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

PROMPT PAYMENT

The prime contractor will be required to pay the DBE within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

CONTRACTOR REPORTING

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to submit certified reports on monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal. These reports must be submitted within 14 days of payment made to the DBE contractor.

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers.

The Prime Contractor should supply the payment information at the time the DBE is compensated for their work. Form to use is located at:
http://transportation.ky.gov/Construction/Pages/Subcontracts.aspx

The prime contractor should notify the KYTC Office of Civil Rights and Small Business Development seven (7) days prior to DBE contractors commencing work on the project. The contact is Melvin Bynes and the telephone number is (502) 564-3601.

Photocopied payments and completed form to be submitted to: Office of Civil Rights and Small Business Development 6th Floor West 200 Mero Street Frankfort, KY 40622

DEFAULT OR DECERTIFICATION OF THE DBE

If the DBE subcontractor or supplier is decertified or defaults in the performance of its work, and the overall goal cannot be credited for the uncompleted work, the prime contractor may utilize a substitute DBE or elect to fulfill the DBE goal with another DBE on a different work item. If after exerting good faith effort in accordance with the Cabinet's Good Faith Effort policies and procedures, the prime contractor is unable to replace the DBE, then the unmet portion of the goal may be waived at the discretion of the Cabinet.

06/20/2014

DGA BASE

Unless otherwise noted, the Department estimates the rate of application for DGA Base to be 115 lbs/sy per inch of depth.

DGA BASE FOR SHOULDERS

Unless otherwise noted, the Department estimates the rate of application for DGA Base for Shoulders to be 115 lbs/sy per inch of depth. The Department will not measure necessary grading and/or shaping of existing shoulders prior to placing of DGA Base, but shall be incidental to the Contract unit price per ton for DGA Base.

Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for grading and/or shaping of existing shoulders and furnishing, placing, and compacting the DGA Base.

JPC RIDE QUALITY

The Department will apply JPC Ride Quality requirements on this project in accordance with Section 501.03.19(B).

FUEL AND ASPHALT PAY ADJUSTMENT

The Department has included the Contract items Asphalt Adjustment and Fuel Adjustment for possible future payments at an established Contract unit price of $1.00. The Department will calculate actual adjustment quantities after work is completed. If existing Contract amount is insufficient to pay all items on the contract with the adjustments, the Department will establish additional monies with a change order.

US 45X MCCRACKEN COUNTY
M.P. 0.413 TO M.P. 1.579
FD52 073 045X 000-001
Item No. 1-2040.00

THIS PROJECT IS ACCESS BY PERMIT

I. DESCRIPTION

Perform all work in accordance with the Department's 2012 Standard Specifications, Supplemental Specifications, other applicable Special Provisions, and applicable Standard and Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Maintain and Control Traffic; (2) Remove and replace JPC Pavement at the locations listed and/or as directed by the Engineer; (3) Permanent Striping; (4) Type V pavement markers; and (5) All other work specified as part of this contract.

II. MATERIALS

Except as specified in these notes or on the drawings, all materials will be according to the Standard Specifications and applicable Special Provisions and Special Notes. The Department will sample and test all materials according to the Department's Sampling Manual and the Contractor will have the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

A. **Maintain and Control Traffic.** See Traffic Control Plan.

B. **Dense Graded Aggregate.** Crushed Stone Base may not be furnished in lieu of DGA.

C. **Jointed Plain Concrete Pavement 11".** Use Jointed Plain Concrete Pavement 11" for full depth replacement of concrete pavement in mainline driving lanes. Either central mixing or truck mixing will be allowed.

D. **Pavement Markings -4 inch Paint.** Use 4-inch Paint for permanent striping.

III. CONSTRUCTION METHODS

A. **Maintain and Control Traffic.** See Traffic Control Plan.

B. **Site Preparation.** Be responsible for all site preparation. Do not disturb existing signs. This item will include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; shoulder preparation and restoration; temporary and permanent erosion and pollution control; and all incidentals. Site preparation will be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but will be incidental to the other items of work.

C. **Concrete Pavement Removal and Replacement.** See General Notes.

Cement Stabilized Roadbed is required on this project prior to replacement of the pavement at locations specified.

D. **Disposal of Waste.** Dispose of all cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor at no additional cost to the Department. The contractor will be responsible for obtaining any necessary permits for this work. Temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads will not be allowed. No separate payment will be made for the disposal of waste and debris from the project or obtaining the necessary permits, but will be incidental to the other items of the work.

E. **Final Dressing, Clean Up, and Seeding and Protection.** After all work is completed, completely remove all debris from the job site. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I. These items are incidental to other items in the contract.

F. **Pavement Striping and Pavement Markers.** Permanent striping will be in accordance with Section 112 and section 714, except that:

(1). Striping will be 4" in width;
(2). Permanent striping will be in place before a lane is opened to traffic; and
(3). Permanent striping will be 4" Paint.

G. **On-Site Inspection.** Each Contractor submitting a bid for this work will make a thorough inspection of the site prior to submitting a bid and will thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

H. **Caution:** Information shown on the drawings and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must

draw his own conclusions as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information above.

I. **Utility Clearance.** It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities.

IV. METHOD OF MEASUREMENT

A. **Maintain and Control Traffic.** See Traffic Control Plan.

B. **Site Preparation.** Other than the bid items listed, site preparation will not be measured for payment, but will be incidental to the other items of work.

C. **Dense Graded Aggregate.** A 4-inch compacted lift of DGA will be used under the JPC pavement.

D. **Remove Pavement.** See General Summary.

E. **JPC Pavement-11".** See Section 501 of the Standard Specifications. No additional payment will be made for any additional concrete required due to a depth beyond 11".

F. **Raised Pavement Markers and Permanent Striping.** Permanent striping paint (4") is measured per linear foot. Type V Pavement Markers are measured as each.

G. **Erosion Control.** Erosion control items not listed as bid items will not be measured for payment, but will be considered incidental to the "lump sum" price for the bid item "KPDES Permit and Temp Erosion Control."

V. BASIS OF PAYMENT

No direct payment will be made other than for the bid items listed. All other items required to complete the construction will be incidental to the bid items listed. Existing signs damaged by the Contractor will be replaced by the Contractor at his expense.

A. **Maintain and Control Traffic.** See Traffic Control Plan.

B. **Site Preparation.** Other than the bid items listed, no direct payment will be allowed for site preparation, but will be incidental to the other items of work.

C. **Dense Grade Aggregate.** See Section 302 of the Standard Specifications.

D. **Remove Pavement.** See Special Note for Full Depth Concrete Pavement Repair.

E. **JPC Pavement -11"** See Section 501 of the Standard Specifications. No additional payment will be made for any additional concrete required due to a depth beyond 11".

F. **Raised Pavement Markers and Permanent Striping.** See Traffic Control Plan.

REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2012.

2. FHWA Manual on Uniform Traffic Control Devices (MUTCD), latest edition.

3. Active Sepia List

Drawing No.	Drawing Name
028	Detectable Warnings
029	Sidewalk Ramps

4. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2012 - Supplemental Specifications, as applicable:

Special Note 1I	Portable Changeable Message Signs (6/15/2012)
Special Note	Typical Section Dimensions *attached*
Special Note	Before You Dig *attached*
Special Note	Fixed Completion Date and Liquidated Damages *attached*
Special Note	Erosion Prevention and Sediment Control *attached*
Special Note	Estimate to Replace Existing Gas Mains *attached*

5. Kentucky Transportation Cabinet, Department of Highways, Standard Drawings, 2012

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS
US 45X – KENTUCKY AVENUE

The dimensions shown on the typical sections for pavement widths are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement be widened unless specified elsewhere in the Proposal.

SPECIAL NOTE FOR BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

Special Note for Fixed Completion Date and
Liquidated Damages
McCracken County
Item No. 1-2040.00

Contrary to Section 108.09, Liquidated Damages of $5,000 per calendar day will be assessed for each day or fraction thereof work remains uncompleted beyond the Specified Completion Date. This project has a Fixed Completion Date of December 15, 2015.

Contrary to Section 108.09 of the Standard Specifications, **the disincentive fee will be charged during those periods when seasonal limitations of the Contract prohibit the Contractor from working on a controlling item or operation. This includes the months from December through March.**

All liquidated damages will be applied cumulatively.

All other applicable portions of Section 108 apply.

Special Note For:
Erosion Prevention and Sediment Control
McCracken Co. Item No. 1-2040.00

The Contractor shall be responsible for filing the Kentucky Pollution Discharge Elimination System (KPDES) KYR10 permit Notice of Intent (NOI) with the Kentucky Division of Water (DOW) and any KPDES local Municipal Separate Storm Sewer System (MS4) program that has jurisdiction. The NOI shall name the contractor as the Facility Operator and include the KYTC Contract ID Number (CID) for reference.

The Contractor shall perform all temporary erosion/sediment control functions including: providing a Best Management Practice (BMP) Plan, conducting required inspections, modifying the BMP plan documents as construction progresses and documenting the installation and maintenance of BMPs in conformance with the KPDES KYR10 permit effective on August 1, 2009 or a permit re-issued to replace that KYR10 permit. This work shall be conducted in conformance with the requirements of Section 213 of KYTC 2012 Department of Highways, Standard Specifications for Road and Bridge Construction.

Contrary to Section 213.03.03, paragraph 2, the Engineer shall conduct inspections as needed to verify compliance with Section 213 of KYTC 2012 Department of Highways, Standard Specifications for Road and Bridge Construction. The Engineer's inspections shall be performed a minimum of once per month and within seven days after a storm of ½ inch or greater. Copies of the Engineer's inspections shall not be provided to the contractor unless improvements to the BMP's are required. The contractor shall initiate corrective action within 24 hours of any reported deficiency and complete the work within 5 days. The Engineer shall use Form TC 63-61 A for this report. Inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance with the KPDES permit.

Contrary to Section 213.05, bid items for temporary BMPs will not be listed and will be replaced with one lump sum item for the services. Payment will be pro-rated based on the Project Schedule as submitted by the Contractor and as agreed to by the Engineer.

The contractor shall be responsible for applying "good engineering practices" as required by the KPDES permit. The contractor may use any temporary BMPs with the approval of the KYTC Engineer.

The contractor shall provide the Engineer copies of all documents required by the KPDES permit at the time they are prepared.

The contractor shall be responsible for the examination of the soils to be encountered and make his own independent determination of the temporary BMPs that will be required to accomplish effective erosion prevention and sediment control.

The Contractor shall be responsible for filing the KPDES permit Notice of Termination (NOT) with the Kentucky DOW and any local MS4 program that has jurisdiction. The NOT shall be filed after the Engineer agrees that the project is stabilized or the project has been formally accepted.

Payment: Payment will be by lump sum under the bid item "K.P.D.E.S. Permit & Temporary Erosion Control".

Summary Report

Project Technician : ed.tucker@atmosenergy.com

Details

Config Id	7021355
Revision Number	1
Project Number	
Project Name	050.2637.Ky Ave Replacements
Company	MID-STATES
Rate Division	009
Cost Center	KMD-Paducah-C&M/Service [2637]
Budget Category	D.System Integ
Planit Budgeted	No
Funds Available $	
TOTAL AIC $	0.00
TOTAL REIMBURSEMENT $	0.00
Activity Code	2054 - Pipeline Integrity (replace)
Old Config Id	-

Cost Estimates

Company Labor	$	9608.00
Contractor Labor	$	0.00
Warehouse Material	$	1985.82
Material Overhead	$	238.3
Non-Warehouse Material	$	0.00
Contractor Material	$	0.00
Right of Ways & Other Permit Fees	$	0.00
Variables	$	0.00
Vehicle Cost	$	1434.48
Rent Cost	$	1003.08
HeavyEquipment Cost	$	639.89
Telecom Cost	$	416.03
Utilities Cost	$	302.65
Subtotal	$	15628.25
Corporate A&G	$	1915.9
BU A&G	$	2335.6
State Overhead	$	2671.35
Benefits Overhead	$	0.00
Labor Overhead	$	5356.46
Total	$	27,907.56

OFFUG -

The State of Kentucky (KYDOT) is preparing to make major inprovements to Kentucky Ave (U.S Hwy 45)in Paducah. The work will be from S. 10th Street (Walter Jetton Blvd) to S 24th Street. The majority of cutting will be in between the curbs. We have five gas mains affected (insufficient depth), there are one four inch steel line, two two inch steel lines, and two 1 1/4 inch steel lines affected. This was not budgeted for 2015 FY, we were not even aware of this project until September 2014. There is some talk of us being reimbursed despite all of our lines being on the right-of-way. This has not yet been officially determined. The let date is February or March of 2015.

US 45/
Kentucky Avenue
Paducah

McCracken Co. Item No.1-2040.0

Mile Point 0.433 at Otis Dinning Dr to
Mile Point 1.554 at Walter Jetton Blvd

PUBLIC INFORMATION PLAN

The Kentucky Transportation Cabinet plans a rehabilitation project along US 45-Business/Kentucky Avenue in Paducah. This project, to be bid in January, will include relocating water sewer and gas lines along this 1.1 mile section. Many of the utility lines in this area are at a shallow depth, requiring that they be moved to a more significant depth.

The primary goal of the Public Information Plan (PIP) is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) which includes shoulder restrictions and lane restrictions required for installation of median cable barrier.

The KYTC District 1 Public Information Officer (PIO) will coordinate with the Paducah City Public Information Coordinator to disseminate appropriate information regarding construction plans to stakeholders, the public, and regional news media.

STAKEHOLDERS

- Legislators
  - State Senator Bob Leeper
  - State Representative Lynn Beckler
  - State Representative Gerald Watkins
  - State Representative Richard Heath
  - State Senator Dorsey Ridley

- State & Federal Agencies
  - KSP Mayfield Post 1-Trooper Jay Thomas
  - KSP Division of Vehicle Enforcement- Lt. Kevin Rogers
  - KY Tourism Gil Lawson- Frankfort
  - KY Area 1 Emergency Management- Mark Garland
  - State Emergency Management-Buddy Rogers
  - KYTC Transportation Operations Center- Jeff Bibb
  - Kentucky Department of Vehicle Regulation- Rick Taylor
  - KY Over Dimensional Permits- Travis Cheatham

- McCracken County Agencies & Officials
  - McCracken Co. Judge-Executive Van Newberry
  - McCracken Co. Sheriff Jon Hayden
  - McCracken Co. 911 Center
  - McCracken County Schools Transportation
  - Lourdes Hospital/Medical Center- Suzanne Farmer
  - Baptist Health Paducah- Bonnie Schrock, CEO
  - Mercy Ambulance Service- Major Randy Harris
  - McCracken Co. Emergency Management
  - Paducah City Government- Pam Spencer, PIO
  - Paducah Fire Department- Asst. Chief Timothy Jones
  - Paducah Police Department- Captain Don Hodgson
  - Paducah Area Chamber of Commerce
  - Barkley Regional Airport- Richard Roof

- Regional/State Agencies
  - Tourism KY Western Waterland- Marinel Larkin
  - Purchase Area Development District
  - Illinois Department of Transportation
  - Federal Highway Administration-Kentucky Office

TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS

- Trucking Trade Publications/Websites
  - E-Trucker Magazine- Max Heine, Ed.
  - The Trucker Magazine Lyndon Finney, Ed.
  - The Truckers Report
  - TruckingInfo.com- Deborah Lockridge, Ed
  - Truck Landline Magazine Clarissa Kell-Holland
  - Trucking XM Radio-Dave Nemo Show
  - KYTC District 1 Trucker Contacts

- Area Trucking Companies/Shippers
  - UPS- Louisville-Bill Sprigg
  - New Page Paper Mill- Wickliffe
  - Calvert City Industrial Community
  - Federal Express-Heather Montgomery
  - Information posted on the 511 website (www.511.ky.gov) and on the 511 telephone information system.

PRESENTATIONS

A project description including anticipated schedule will be provided to local and regional news media, stakeholders and other emergency service agencies via e-mail prior to start of construction. Information will be provided to these groups via traffic advisories, and/or press releases approximately one week prior to the start of work with additional advisories as appropriate for traffic shifts, etc.

MEDIA RELATIONS

The Public Information Officer will prepare an initial news release regarding the contract award for the project. The PIO will conduct interviews with the media throughout the project duration to keep the public informed of construction progress. Traffic advisories will be submitted to the media when a change in the MOT occurs. The contractor must provide to the PIO via the Resident Engineer notification of any change in the MOT at least 48 hours prior to the change.

Additional info and traffic advisories will be provided to area media and the public at www.511.ky.gov and via Facebook at www.facebook.com/kytcdistrict1 and www.facebook.com/kytcdistrict2.

SPECIAL NOTES FOR
PROTECTION OF RAILROAD INTEREST

Paducah and Louisville Railway, Inc.

I. AUTHORITY OF RAILROAD ENGINEER AND STATE ENGINEER:

A. *The authorized representative of the Railroad Company, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic of his Company including the adequacy of the foundations and structures supporting the Railroad tracks.*

B. *The authorized representative of the State, hereinafter referred to as the Engineer, shall have authority over all other matters as prescribed herein and in the Project Specifications.*

II. NOTICE OF STARTING WORK:

A. *The Contractor shall not commence any work on Railroad rights of way until he has complied with the following conditions:*

1. Given the Railroad written notice, with copy to the Engineer who has been designated to be in charge of the work, **at least ten (10) days in advance** of the date he proposes to begin work on Railroad rights of way. **If flagging service is required, such notice shall be submitted at least thirty (30) days in advance** of the date scheduled to commence work. The Railroad's Contact information is on the Summary Sheet.

2. Obtain written authorization from the Railroad to begin work on Railroad rights of way, such authorization to include an outline of specific conditions with which he must comply.

3. Obtain written approval from the Railroad of Railroad Protective Insurance Liability coverage as required by paragraph 14 herein.

4. Furnish a schedule for all work within the Railroad rights of way as required by paragraph 7, B, 1.

B. *The Railroad's written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad's representatives who*

are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

III. INTERFERENCE WITH RAILROAD OPERATIONS:

A. The Contractor shall so arrange and conduct his work that there will be no interference with Railroad operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad Company or to poles, wires, and other facilities of tenants on the rights of way of the Railroad Company. Whenever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging service or inspection service (watchman) shall be deferred by the Contractor until the flagging protection required by the Railroad is available at the job site.

B. Whenever work within Railroad rights of way is of such a nature that impediment to Railroad operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.

C. Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in his absence, the Engineer, such provisions are insufficient, either may require or provide such provisions, as he deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost and/or time to the Railroad or the State.

IV. TRACK CLEARANCES

A. The minimum track clearances to be maintained by the Contractor during construction are shown on the Project Plans. However, before undertaking any work within Railroad rights of way, or before placing any obstruction over any track, the Contractor shall:

1. Notify the Railroad's representative **at least 72 hours in advance** of the work.

2. Receive assurance from the Railroad's representative that arrangements have been made for flagging service as necessary.

3. Receive permission from the Railroad's representative to proceed with the work.

4. Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.

V. CONSTRUCTION PROCEDURES

A. General:

1. Construction work on Railroad property shall be:

   a) Subject to the inspection and approval of the Railroad.

   b) In accord with the Railroad's written outline of specific conditions.

   c) In accord with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.

   d) In accord with all Special Notes, Summaries, and Addendums.

2. The Railroad requires a submission of construction procedure that meets the requirements of these Special Notes and attachments. The Railroad's **submittal review period is thirty (30) days. Resubmissions will be reviewed within 2 weeks.**

B. Excavation and shoring:

1. The sub grade of an operated track shall be **maintained with edge of berm at least 10'0" from centerline of track and not more than 24 inches below top of rail.** Contractor will not be required to make existing section meet this specification if substandard, in which case the existing section will be maintained.

2. The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles, or sheeting for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. The procedure for doing such work, including need of and plans for shoring, shall first be approved by the Engineer and the Railroad Engineer, but such approval shall not relieve the Contractor from liability.

3. The Contractor shall submit a detailed procedure for the installing of sheeting/shoring adjacent to Railroad Tracks.

4. Shoring protection shall be provided when excavating adjacent to an active track or railroad facility or as determined by the Railroad. Shoring will be provided in accordance with AREMA *Manual for Railway Engineering* Chapter 8, part 28; except as noted below.

5. Shoring may not be required if all of the following conditions are satisfied:

a. Excavation does not encroach upon a 1½ horizontal: 1 vertical theoretical slope line starting 1'-6" below top of rail and at 12'-0" minimum from centerline of the track (live load influence zone).

b. Track is on level ground or in a cut section and on stable soil.

c. Excavation does not adversely impact the stability of a Railroad facility (i.e. signal bungalow, drainage facility, undergrade bridge, building, etc.)

d. Shoring is not required by any governing construction code.

6. When the track is on an embankment, excavating the toe of the embankment without shoring may affect the stability of the embankment. Therefore, excavation of the embankment toe without shoring will not be permitted.

7. Trench boxes are prohibited for use on Railroad property within the theoretical live load influence zone.

8. The required protection is the cofferdam type that completely encloses the excavation. Where dictated by conditions, partial cofferdams with opened sides away from the track may be used. Cofferdams shall be constructed using steel piling, or when approved by the engineer, steel soldier piles with timber lagging. Wales and struts shall be provided and designed as needed. The following shall be considered when designing cofferdams:

a. Shoring shall be designed to resist a vertical lice load surcharge of 1,880 lbs. per square foot, in addition to active earth pressure. The surcharge shall be assumed to act on a continuous strip, 8'6" wide. Lateral pressures due to surcharge shall be computed using the strip load formula shown in AREMA *Manual for Railway Engineering*, Chapter 8, Part 20.

b. Allowable stresses in materials shall be in accordance with AREMA *Manual for Railway Engineering*, Chapter 7, 8, and 15.

c. A construction procedure for temporary shoring shall be shown on the drawing.

d. All shoring systems on or adjacent to Railroad right-of-way shall be equipped with railings or other approved fall protection.

e. A minimum horizontal clearance of 10'-0" from centerline of the track to face of nearest point of shoring shall be maintained provided a 12'-0" roadbed is maintained with a temporary walkway and handrail system.

9. The Contractor shall submit the following drawings and calculations (all shall be signed/sealed by a Professional Engineer) for the Railroad's review and approval.

   a. Six (6) sets of detailed drawings of the shoring systems showing sizes of all structural members, details of connections, and distances from centerline of track to face of shoring. Drawing shall show a section showing height of shoring and track elevation in relation to bottom of excavation.

   b. Six (6) sets of calculations of the shoring design. The drawings and calculations shall be prepared by a Licensed Professional Engineer and shall bear the Engineer's seal and signature. Shoring plans shall be approved by the Railroad's construction engineering and inspection representative.

   c. For sheeting and shoring within 18'-0" of the centerline of the track, the live load influence zone, and in sloes, the Contractor shall use interlocked steel sheeting (sheet pile).

   d. Sheet pile installed in slopes or within 18'-0" of the centerline shall <u>not</u> be removed.

   e. Sheet pile shall be cut off a minimum of 3'-0" below the finished grade, ditch line invert, or as directed by the Engineer. The ground shall be backfilled and compacted immediately after sheet pile is cut off.

   f. A procedure for cutting off the sheet pile and restoring the embankment shall be submitted to the Engineer for review and acceptance.

C. Demolition Procedure:

1. Railroad tracks and other railroad property, including signals, structures, and other facilities, must be protected from damage during the procedure. No crane or equipment may be set on the rails or track structure and no material may be dropped on Railroad property.

2. The Contractor is required to submit a plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.

3. Crane rating sheets showing cranes to be adequate for **150% of the actual weight of the pick.** A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted.

4. Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the existing and/or proposed structure showing complete and sufficient details with supporting data for the demolition or erection of the structure. If plans do not exist, lifting weights must be calculated from field measurements. If possible, field measurements shall be taken with a Railroad representative present.

5. A data sheet must be submitted listing the types, size, and arrangements of all rigging and connection equipment. The safe working load capacity of all rigging and connecting equipment shall be 150% above the calculated weight of the pick.

6. A complete procedure is to be submitted, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.

7. All erection or demolition plans, procedures, data sheets, etc. submitted must be prepared, signed and sealed by a Registered Professional Engineer.

8. The Railroad's representative must be present at the site during the entire demolition and erection procedure period.

9. All procedures, plans and calculations shall first be approved by the Engineer and the Railroad Engineer, but such approval does not relieve the Contractor from liability.

10. Loads shall not be supported while any trains are passing if that piece of equipment has the capacity to foul a 50' envelope.

11. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.

12. Existing, obsolete, bridge piers shall be removed to a minimum of 3'-0" below the finished grade, final ditch line invert, or as directed by the Engineer.

13. A minimum quantity of 25 tons of Railroad approved track ballast may be required to be furnished and stockpiled on site by the Contractor, or as directed by the Engineer.

14. On-track or ground debris shields such as crane mats are prohibited.

15. Overhead Demolition Debris Shield – Shall be installed prior to the demolition of a bridge deck or other relevant portions of the superstructure.

    a. The demolition debris shield shall be erected from the underside of the bridge over the track area to catch all falling debris.

    b. The Contractor shall include the demolition debris shield installation/removal means and methods as part of the proposed Controlled Demolition procedure submission.

    c. The demolition debris shield shall provide 23'-0" minimum vertical clearance if the existing clearance is less than 23'-0" as approved by the Railroad. Horizontal clearance to the centerline of the track should not be reduced unless approved by the Engineer.

    d. The vertical clearance ATR (above top of rail) is measured from the top of rail to the lowest point on the overhead shielding system measured within a distance of 6'-0" out from each side of the track centerline.

    e. The demolition debris shield design and supporting calculations, all signed/sealed by a Professional Engineer, shall be submitted for review and acceptance.

    f. The demolition debris shield shall have a **minimum** design load of 50 pounds per square foot **plus** the weight of the equipment, debris, personnel, and other loads to be carried.

    g. The Contractor shall include the proposed bridge deck removal procedure in its demolition means and methods and shall verify that the size and quantity of the demolition debris generated by the procedure does not exceed the shield design loads.

h. The contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Engineer.

16. Vertical Demolition Shield – This type of shield may be required for substructure removals in close proximity to track and other facilities, as determined by the Engineer.

a. Prior to commencing the demolition activity, the Contractor shall install a ballast protection system consisting of geotextile to keep the railroad ballast from becoming fouled with construction or demolition debris and fines. The geotextile ballast protection system shall be installed and maintained by the Contractor for the project duration in accordance with the attached plan, or with additional measures as directed by the Engineer.

b. The Contractor shall submit detailed plans, with detailed calculations, prepared and submitted by a Professional Engineer of the protection shield and ballast protection systems for approval prior to the start of demolition.

c. Blasting will not be permitted to demolish a structure over or within Railroad right-of-way.

17. The Controlled Demolition procedure must be approved by the Engineer prior to undertaking work on the project.

18. The Contractor shall provide timely communication to the Engineer when scheduling the demolition related work so that the Engineer may be present during the entire demolition procedure.

19. At any time during demolition activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances which may create a potential hazard to rail operations or Railroad facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer’s satisfaction. The Railroad shall not be responsible for any additional costs or time claims associated with such revisions.

D. *Erection Procedure:*

The Contractor shall submit a detailed procedure for performing erection on/about Railroad property.

1. The Contractor shall submit six (6) copies of the detailed procedure for erection of the proposed structures over or adjacent to the tracks or right-of-way. This procedure shall include a plan showing the locations of cranes, horizontally and vertically, operating radii, with staging locations shown, including beam placement on ground or truck unloading staging plan. Plan should also include the location of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions should be shown. No crane or equipment may be set on the rails or track structure.

2. Also included with this submittal the following information:

    a. As-Built Bridge Seat Elevations - All as-built bridge seats and top of rail elevations shall be furnished to the Engineer for review and verification at least 30 days in advance of construction or erection, to ensure that minimum vertical clearances as approved in the plans will be achieved.

    b. Computations showing weight of picks must be submitted. Computations shall be made from plans of the structure beams being erected and those plans or sections thereof shall also be included in the submittal; the weight shall include the weight of concrete or other materials including lifting rigging.

    c. Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted. Safety factors that may have been “built in” to the crane charts are not to be considered when determining the 150% Factor of Safety.

    d. A data sheet shall be prepared listing the type, size and arrangements of slings, shackles, or other connecting equipment. Include copies of a catalog or information sheets for specialized equipment. All specific components proposed for use shall be clearly identified and highlighted in the submitted documents. The safe working load capacity of the connecting equipment shall be 150% above the calculated weight of the pick.

    e. A complete written procedure is to be included that describes the sequence of events, indicating the order of lifts and any repositioning or rehitching of the crane or cranes.

f. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical sub tasks (i.e., performing aerial splices, installing temporary bracing, etc.) shall be furnished so that the potential impact(s) to Railroad operations may be assessed and eliminated or minimized.

g. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.

h. Design and supporting calculations prepared by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review. A guardrail will be required to be installed in a track where a temporary bent is located within twelve (12) feet from the centerline of that track.

3. The proposed Erection procedure must be approved by the Engineer prior to undertaking work on the project.

4. The Contractor shall provide timely communication to the Engineer when scheduling the erection related work so that the Engineer may be present during the entire erection procedure.

5. At any time during construction activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances which may create a potential hazard to rail operations or Railroad facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. The Railroad shall not be responsible for any additional costs or time claims associated with such revisions.

E. Blasting:

1. The Contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosive on or adjacent to Railroad property. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Contractor will be required to comply with the following:

    a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.

    b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

    c) No blasting shall be done without the presence of an authorized representative of the Railroad. **At least 10 days advance notice** to the person designated in the Railroad's notice of authorization to proceed (see paragraph 2B above) will be required to arrange for the presence of an authorized Railroad representative and such flagging as the Railroad may require.

    d) Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at his expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railway's authorized representative. If his actions result in delay of trains, the Contractor shall bear the entire cost thereof.

    e) Explosives shall not be stored on Railroad Property.

    f) At any time during the blasting activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions, or other circumstance which may create a potential hazard to rail operations or Railroad facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer’s satisfaction. The Railroad shall not be responsible for any additional costs or time claims associated with such revisions.

2. The Railroad representative will:

    a) Determine the approximate location of trains and advise the Contractor the approximate amount of time available for the blasting operation and clean-up.

b) Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accord with these Special Notes.

F. Track Monitoring:

The Contractor shall submit for Railroad review and approval, a detailed track monitoring program to detect both horizontal and vertaical movement of the track and roadbed, a minimum of 30-days in advance of start of work.

1. For the installation of temporary or permanent shoring systems, including but not limited to soldier piles and lagging, and interlocked steel sheeting on or adjacent to the Railroad's right-of-way, the contractor may be required to submit a detailed track monitoring program for the Railroad's approval prior to performing any work near the Railroad's right-of-way.

2. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. The Railroad reserves the right to modify the survey locations and monitoring frequency as necessary during the project.

3. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Engineer for analysis.

4. If any movement has occurred as determined by the Engineer, the Railroad will be immediately notified. The Railroad, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased, have the excavated area immediately backfilled and/or determine what corrective action is required. Any corrective action required by the Railroad or performed by the Railroad including monitoring of corrective action of the contractor will be at project expense.

G. Maintenance of Railroad Facilities:

1. The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from his operations and provide and maintain any erosion control measures as required. The Contractor shall provide erosion control measures during construction and use methods that accord with applicable state standard specifications for road and bridge construction, including either (1) silt fence; (2) berm or temporary ditches; (3) sediment basin; (4) aggregate checks; and (5) channel lining. The Contractor will promptly repair eroded areas with Railroad rights of way and to repair any other damage to the property of the Railroad or its tenants at the Contractor's expense.

2. All maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

H. Storage of Materials and Equipment:

1. Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights of way of the Railroad Company without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad Company will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.

2. All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save Railroad, and any associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

I. Cleanup:

1. Upon completion of the work, the Contractor shall remove from within the limits of the Railroad rights of way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said rights of way in a neat condition satisfactory to the Chief Engineer of the Railroad or his authorized representative.

VI. DAMAGES:

A. The Contractor shall assume all liability for any and all damages to his/her work, employees, equipment and materials caused by Railroad traffic.

B. Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.

VII. FLAGGING SERVICES:

A. When Required:

1. Flagging services will not be provided until the contractor's insurance has been reviewed & approved by the Railroad.

2. Under the terms of the agreement between the Department and the Railroad, the **Railroad has sole authority to determine the need for flagging** required to protect its operations. In general, the requirements of such services will be whenever the Contractor's personnel or equipment are likely to be, working on the Railroad's rights of way, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging. If any element (workers, equipment, tools, scaffolding, etc.) may exist or fall within 25-feet of the edge of track, a flagman is necessary.

3. Normally, the Railroad will assign one flagman to a project; but in some cases, more than one may be necessary, such as yard limits where three- (3) flagmen may be required. However, if the Contractor works within distances that violate instructions given by the Railroad's authorized representative or performs work that has not been scheduled with the Railroad's authorized representative, a flagman or flagmen may be required until the project has been completed.

B. Scheduling and Notification:

1. Not later than the time that approval is initially requested to begin work on Railroad rights of way, Contractor shall furnish to the Railroad and the Department a schedule for all work required to complete the portion of the project within Railroad rights of way and arrange for a job site meeting between the Contractor, the Department, and the Railroad's authorized representative. Flagman or Flagmen may not be provided until the job site meeting has been conducted and the Contractor's work scheduled.

2. The Contractor will be required to give the Railroad representative **at least 10 working days of advance written notice** of intent to begin work within Railroad rights of way. If it is necessary for the Railroad to advertise a flagging job for bid, it **may take up to 90-days to obtain service**. Once begun, when work is suspended at any time for any reason, the Contractor will be required to give the Railroad representative **at least 3 working days of notice** before resuming work on Railroad rights of way. Such notice shall include sufficient details of the proposed work to enable the Railroad representative to determine if flagging will be required. If such notice is in writing, the Contractor shall furnish the Engineer a copy; if notice is given verbally it shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagman, or flagmen is present at the job site. It **may take up to 30 days to obtain flagging initially** from the Railroad. When flagging begins the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and may be unable to be called for on a spot basis. If flagging becomes unnecessary and is suspended, it **may take up to 10 days to again obtain flagging services** from the Railroad. Due to labor agreements, it is necessary to give **5 working days notice before flagging service may be discontinued** and responsibility for payment stopped.

3. If, after the flagman is assigned to the project site, emergencies arise which require the flagman's presence elsewhere, and then the Contractor shall delay work on Railroad rights of way until such time as the flagman is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the Department or Railroad.

4. When demobilizing, the Contractor shall contact the flagman to avoid unnecessary flagging charges. This communication shall be documented.

C. Payment:

1. **The Cabinet will be responsible for paying the Railroad directly for any and all costs of flagging,** which may be required to accomplish the construction.

2. The estimated cost of flagging is listed on the Summary Sheet. The charge to the Cabinet by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required.

3. Railroad work involved in preparing and handling bills will also be charged to the Cabinet. Charges to the Cabinet by the Railroad shall be in accordance with applicable provisions of 23 CRF 140, Subpart I and 23 CRF 646, Subpart B. Flagging costs are subject to change. The above estimates of flagging cost are provided for information only and are not binding in any way.

D. Verification:

1. The Contractor and Department will review and sign the Railroad flagman's time sheet, attesting that the flagman was present during the time recorded. Flagman may be removed by Railroad if form is not signed. If flagman is removed, the Contractor will not be allowed to re-enter the Railroad rights of way until the issue is resolved. Any complaints concerning flagman or flagmen must be resolved in a timely manner. If need for flagman or flagmen is questioned, please contact the Railroad's Representative listed on the Project Summary Sheet. All verbal complaints must be confirmed in writing by the Contractor within 5 working days with copy to the Highway Engineer. All written correspondence should be addressed to the Railroad's Representative listed on the Project Summary Sheet.

2. The Railroad flagman assigned to the project will be responsible for notifying the Project Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Project Engineer will document such notification in the project records. When requested, the Project Engineer will also sign the flagman's diary showing daily time spent and activity at the project site.

VIII. HAUL ACROSS RAILROAD:

A. Where the plans show or imply that materials of any nature must be hauled across a Railroad, unless the plans clearly show that the State has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Contractor will be required to bear all costs incidental, including flagging, to such crossings whether services are performed by his own forces or by Railroad personnel.

B. *No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad Company unless specific authority for is installation, maintenance, necessary watching and flagging thereof and removal, all at the expense of the Contractor, is first obtained from the Railroad Engineer.* ***The approval process for an agreement normally takes 90-days.***

IX. WORK FOR THE BENEFIT OF THE CONTRACTOR:

A. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the State and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the State and/or the Railroad.

B. Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.

X. COOPERATION AND DELAYS:

A. It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.

B. Train schedules cannot be provided to the Contractor. It is the Contractor's responsibility to contact the Railroad in order to arrange "Track Time." This "Track Time" will be an agreed upon prearranged time period that the Railroad will, without undue burden, schedule no train traffic to facilitate the Contractor's work on or near Railroad right-of-way. This track time must be arranged ***at least 48 hours prior to the date of need.***

C. No charge or claims of the Contractor against either the Department or the Railroad will be allowed for hindrance or delay on account of railroad traffic; any work done by the Railroad or other delay incident to or necessary for safe maintenance of Railroad traffic or for any delays due to compliance with these Special Notes.

D. The Contractor shall cooperate with others participating in the construction of the Project to the end that all work may be carried on to the best advantage.

E. The Railroad does not assume any responsibility for work performed by others in connection with the Project. No claims of the Contractor against the Railroad for any inconvenience, delay, or additional cost incurred by the Contractor on account of operations by others.

XI. TRAINMAN'S WALKWAYS:

*A. Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 10 feet from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railroad's protective service is provided shall be removed before the close of each day. If there is any excavation near the walkway, a handrail, with **10'-0" minimum clearance from centerline of track,** shall be placed.*

XII. GUIDELINES FOR PERSONNEL ON RAILROAD RIGHTS OF WAY:

A. All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots cinched with straps which fit snugly about the ankle are adequate. Safety boots are strongly recommended.

*B. No one is allowed within **25' of the centerline of the track** without specific authorization from the flagman.*

C. All persons working near track when train is passing are to look out for dragging bands, chains and protruding or shifting cargo.

D. No one is allowed to cross tracks without specific authorization from the flagman.

*E. All welders and cutting torches working within **25' of track must stop when train is passing.***

F. No steel tape or chain will be allowed to cross or touch rails without permission.

XIII. GUIDELINES FOR EQUIPMENT ON RAILROAD RIGHTS OF WAY:

*A. No crane or boom equipment will be allowed to set up to work or park within **boom distance plus 15' of centerline of track** without specific permission from railroad official and flagman.*

B. No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.

C. All employees will stay with their machines when crane or boom equipment is pointed toward track.

D. All cranes and boom equipment under load will stop work while a train is passing (including pile driving).

E. Swinging loads must be secured to prevent movement while train is passing.

F. No loads will be suspended above a moving train.

*G. No equipment will be allowed within **25' of centerline of track** without specific authorization of the flagman.*

H. Trucks, tractors or any equipment will not touch ballast line without specific permission from railroad official and flagman.

*I. No equipment or load movement **within 25' or above a standing train or other equipment** without specific authorization of the flagman.*

*J. All operating equipment within **25' of track must halt operations when a train is passing**. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.*

K. All equipment, loads and cables are prohibited from touching rails.

L. While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.

M. No equipment or materials will be parked or stored on Railroad's property unless specific permission is granted from the Railroad Engineer.

N. All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it can not be moved by unauthorized persons.

O. All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.

XIV. INSURANCE:

See following Paducah & Lousiville Railway, INC. Insurance Requirements

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XV. FAILURE TO COMPLY:

A. *These Special Notes are supplemental and amendatory to the current edition of the Kentucky Department of Highways' Standard Specifications for Road and Bridge Construction and amendments thereof, and where in conflict therewith, these Special Notes shall govern.*

B. *In the event the Contractor violates or fails to comply with any of the requirements of these Special Notes:*

1. The Railroad Engineer may require that the Contractor vacate Railroad property.

2. The Engineer may withhold all monies due the Contractor on monthly statements.

3. Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

XVI. PAYMENT FOR COST OF COMPLIANCE:

A. *No separate payment will be made for any extra cost incurred on account of compliance with these Special Notes. All such cost shall be included in prices bid for other items of the work as specified in the payment items.*

PADUCAH & LOUISVILLE RAILWAY, INC.
INSURANCE REQUIREMENTS

Applicant shall provide and maintain the following insurance, in form and amount and with companies satisfactory to, and as approved by, P&L as follows:

(a) Statutory Workers' Compensation and Employer's Liability insurance.

(b) An Occurrence Form Railroad Protective Policy with limits of not less than Five Million ($5,000,000.00) Dollars per occurrence for Bodily Injury Liability, Property Damage Liability and Physical Damage to Property, with Ten Million ($10,000,000.00) Dollars aggregate for the term of the policy with respect to Bodily Injury, Liability, Property Damage Liability and Physical Damage to Property.

(c) Automobile Liability in an amount not less than One Million ($1,000,000.00) Dollars combined single limit.

(d) Comprehensive General Liability in an amount not less than Five Million ($5,000,000.00) Dollars combined single limit. In the event the policy is a Claims Made Policy, coverage shall include an aggregate of Ten Million ($10,000,000.00) Dollars. Limits may be accomplished by use of underlying coverage with an umbrella as long as the umbrella follows form.

Each policy shall name P&L as a named insured and shall provide for not less than ten (10) days prior written notice to P&L of cancellation of, or any material change in the policies. The policies shall not contain any exclusions related to doing business on, near, or adjacent to Railroad facilities.

Applicant shall provide P&L with a Certificate of Insurance evidencing such coverage and, upon request, shall deliver a certified, true and complete copy of the policy or policies to P&L.

It is understood that, so long as this Agreement shall remain in force, P&L shall have the right, from time to time, to revise the amount or form of insurance coverage's provided in this exhibit as circumstances or changing economic conditions may require. P&L shall give Applicant written notice of any such requested change at least thirty (30) days prior to the date of expiration of the then existing policy or policies and Applicant shall provide P&L with such revised policy or policies therefore or otherwise agree to modify the Agreement to remove the limitation of indemnification to Applicant’s limits of insurance.

All insurance provided must be primary and shall not be reduced or limited by any insurance procured by P&L.

Kentucky Transportation Cabinet
Division of Right of Way & Utilities

TC 69-008
08/2010
Page 1 of 2

SUMMARY FOR KYTC PROJECTS THAT INVOLVE A RAILROAD

Date: 1/9/2015 *(enter using M/d/yyyy format)*

This project actively involves the below listed railroad company. This Project Summary provides an abbreviated listing of project specific railroad data. The detailed needs of the specified railroad company are included in the Special Notes for Protection of Railroad Interest in the proposal package. By submitting a bid, the contractor attests that they have dutifully considered and accepted the provisions as defined in both documents.

GENERAL ROAD PROJECT INFORMATION *(This section must be provided by KYTC)*

County: McCracken
Federal Number: STP 7629 (001)
State Number: FD52 073 045X 000-00
Route: US 45X
Project Description: Remove and Replace AC Pavement on US 45X
Item Number: 01-2040.00 **Highway Milepost:** 1.433

GENERAL RAIL INFORMATION *(The below sections must be provided by Railroad Company)*

Rail Company Name: Paducah and Louisville Railway
AAR-DOT# (if applicable): 297 223M **Railroad Milepost:** 0255.00
Train Count (6am to 6pm): 2 **Train Count (6pm to 6am):** 0 **Train Count (24 hr total):** 2
Maximum Train Speed: 10 mph
(This information is necessary to acquire the necessary insurances when working with Railroad Right of Way)

INSURANCE REQUIREMENTS

The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

(a) Named Insured: Paducah and Louisville
(b) The project description should be as indicated in the General Road Project Information section.
(c) The designation of the jobsite is the route, Milepost, and AAR-DOT# listed above.

FLAGGING INFORMATION

Flagging Estimate:

Cabinet will pay RR directly for any and all flagging costs.

Hourly Rate:

$40.51 per hour based on a 8 hour day effective as of the date of this document.

Work by a flagman in excess of 8 hours per day or 40 hours per week, but not more than 12 hours a day will result in overtime pay at 1 ½ times the appropriate rate. Work by a flagman in excess of 12 hours per day will result in overtime pay at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 ½ times the normal rate.

Forecasted Rate Increases:

Rates will increase to $0.00 per hour based on a 0 hour day effective _____ *(enter using M/d/yyyy format).*

RAILROAD CONTACTS

(to be provided by Railroad Company)

General Railroad Contact:

Gerald Gupton, V.P. and Chief Engineer
Paducah and Louiville Railway, Inc.

1500 Kentucky Avenue
Paducah, Kentucky 42003
(Phone) 270-444-4300
(Email) Ggupton@palrr.com

Regional Representative (Roadmaster):

Keith Tucker

(Phone) 270-331-4510
(Email) keithtucker@palrr.com

Insurance contact:

Gerald Gupton, V.P. and Chief Engineer
Paducah and Louisville Railway, Inc.

1500 Kentucky Avenue
Paducah, Kentucky 42003
(Phone) 270-444-4300
(Email) Ggupton@palrr.com

Railroad Designer Contact:

Contractor or In-House Employee? In-House

Gerald Gupton, V.P. and Chief Engineer
Paducah and Louisville Railway, Inc.

1500 Kentucky Avenue
Paducah, Kentucky 42003
(Phone) 270-444-4300
(Email) Ggupton@palrr.com

Railroad Construction Contact:

Contractor or In-House Employee? In-House

Gerald Gupton, V.P. and Chief Engineer
Paducah and Louisville Railway, Inc.

1500 Kentucky Avenue
Paducah, Kentucky 42003
(Phone) 270-444-4300
(Email) Ggupton@palrr.com

KENTUCKY TRANSPORTATION CABINET CONTACTS

(to be provided by KYTC)

KYTC Railroad Coordinator:

Allen Rust, PE
Div. of Right of Way & Utilities
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor East
Frankfort, Kentucky 40622
(Phone) 502-782-4950
(Email) allen.rust@ky.gov

KYTC Construction Procurement Director:

Diana Radcliffe, Director
Div. of Construction Procurement
Kentucky Transportation Cabinet
200 Mero Street, 3rd Floor West
Frankfort, Kentucky 40622
(Phone) 502-564-3500
(Email) Diana.radcliffe@ky.gov

KYTC Construction Director:

Ryan Griffith, Director
Div. of Construction
Kentucky Transportation Cabinet
200 Mero Street, 3rd Floor West
Frankfort, Kentucky 40622
(Phone) 502-564-4780
(Email) ryan.griffith@ky.gov

The project specific information provided herein is valid as of the date indicated. However, the specific information may be subject to change due to the normal business operations of all parties. The terms and conditions defined here, and in the bid proposal in its entirety, are inclusive and constant.

Right-of-Way Certification Form

Revised 2/22/11

☑ Federal Funded ☑ Original

☐ State Funded ☐ Re-Certification

This form must be completed and submitted to FHWA with the PS&E package for federal-aid funded Interstate, Appalachia, and Major projects. This form shall also be submitted to FHWA for all federal-aid projects that fall under Conditions No. 2 or 3 outlined elsewhere in this form. When Condition No. 2 or 3 apply, KYTC shall resubmit this ROW Certification prior to construction contract Award. For all other federal-aid projects, this form shall be completed and retained in the KYTC project file.

Date: January 6, 2015

Project Name: Pavement Rehab - US 45X

Letting Date: February 20, 2015

Project #:

County: McCracken

Item #: 01-2040.00

Federal #: STP

Description of Project: REMOVE & REPLACE AC PAVEMENT ON US 45X FROM MP 0.42 TO MP 1.43.

Projects that require NO new or additional right-of-way acquisitions and/or relocations

☐ The proposed transportation improvement will be built within the existing rights-of -way and there are no properties to be acquired, individuals, families, and businesses ("relocatees") to be relocated, or improvements to be removed as a part of this project.

Projects that require new or additional right-of-way acquisitions and/or relocations

☐ Per 23 CFR 635.309, the KYTC hereby certify that all relocatees have been relocated to decent, safe, and sanitary housing or that KYTC has made available to relocatees adequate replacement housing in accordance with the provisions of the current FHWA directive(s) covering the administration of the Highway Relocation Assistance Program and that at least one of the following three conditions has been met. (Check those that apply.)

☐ **Condition 1.** All necessary rights-of-way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Fair market value has been paid or deposited with the court.

☐ **Condition 2.** Although all necessary rights-of-way have not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Trial or appeal of some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Fair market value has been paid or deposited with the court for most parcels. Fair market value for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract. (See note 1 below.)

Note 1: The KYTC shall re-submit a right-of-way certification form for this project prior to AWARD of all Federal-Aid construction contracts. Award must not to be made until after KYTC has obtained full legal possession and fair market value for all parcels has been paid or deposited with the court and FHWA has concurred in the re-submitted right-of-way certification.

Right-of-Way Certification Form

Revised 2/22/11

☐ **Condition 3.** The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. However, all remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. The KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary rights-of-way will not be fully acquired, and/or some occupants will not be relocated, and/or the fair market value will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction. A full explanation and reason for this request, including identification of each such parcel and dates on which acquisitions, payments, and relocations will be completed, is attached to this certification form for FHWA concurrence. (See note 2.)

Note 2: The KYTC may request authorization on this basis only in unique and unusual circumstances. Proceeding to bid letting shall be the exception and never become the rule. In all cases, the KYTC shall make extraordinary efforts to expedite completion of the acquisition, payment for all affected parcels, and the relocation of all relocatees prior to AWARD of all Federal-Aid construction contracts or force account construction.

Approved: Greg L. Morgan (Printed Name) — [signature] (Signature) — 1/6/15 Right-of-Way Supervisor

Approved: DM Loy (Printed Name) — [signature] (Signature) — 06 Jan 15 KYTC, Director of ROW &Utilities

No Signature Required
as per FHWA - KYTC
2013 Stewardship Agreement

Approved: ______ (Printed Name) — ______ (Signature) — FHWA, ROW Officer (when applicable)

Right-of-Way Certification Form

Revised 2/22/11

Date: January 6, 2015

Project Name: Pavement Rehab - US 45X
Project #:
Item #: 01-2040.00
Letting Date: February 20, 2015

County: McCracken
Federal #: STP

This project has 0 total number of parcels to be acquired, and 0 total number of individuals or families to be relocated, as well as 0 total number of businesses to be relocated.

0 Parcels where acquired by a signed fee simple deed and fair market value has been paid

0 Parcels have been acquired by IOJ through condemnation and fair market value has been deposited with the court

0 Parcels have not been acquired at this time (*explain below for each parcel*)

0 Parcels have been acquired or have a "right of entry" but fair market value has not been paid or has not been deposited with the court *(explain below for each parcel)*

0 Relocatees have not been relocated from parcels ____, ____, ____, ____, ____, ____, and ____ *(explain below for each parcel)*

Parcel #	Name/Station	Explanation for delayed acquisition, delayed relocation, or delayed payment of fair market value	Proposed date of payment or of relocation

There are 0 billboards and/or 0 cemeteries involved on this project.

There are 0 water or monitoring wells on parcels ____, ____, ____, ____, and ____. All have been acquired and are the responsibility of the project contractor to close/cap.

Form Effective Date: April 1, 2006
Last Revised: February 22, 2011

SPECIAL NOTES FOR UTILITY CLEARANCE

IMPACT ON CONSTRUCTION

McCRACKEN, STP 7629 (001)
FD52 073 045X 000-001
US 45X – KENTUCKY AVENUE – PAVEMENT REHABILITATION
Item # 1-2040.0

GENERAL PROJECT NOTE ON UTILITY PROTECTION

Utility coordination efforts determined that significant utility relocation work is required to complete the project. Any work pertaining to these utility facilities is defined in the bid package and is to be carried out as instructed by the Kentucky Transportation Cabinet. The contractor will be responsible for any coordination or adjustments that are discussed or quantified in the proposal.

NOTE: DO NOT DISTURB THE FOLLOWING UTILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS

Paducah Power has power poles and overhead lines throughout the project.

Comcast has overhead lines throughout the project.

AT&T has overhead lines throughout the project, and a major duct bank that extends from 17th Street to Walter Jetton Blvd. on the south side of Kentucky Ave., with major crossings at: 13th Street, by Paducah Power, and at 17th Street.

The Contractor is fully responsible for protection of all utilities listed above

THE FOLLOWING COMPANIES ARE RELOCATING/ADJUSTING THEIR UTILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION

N/A

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE COMPANY OR THE COMPANY'S SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

Atmos Energy has crossings at various locations that will need to be relocated, and will perform the work themselves.

The Department will consider submission of a bid as the Contractor's agreement to not make any claims for additional compensation due to delays or other conditions created by the operations of Atmos Energy. Working days will not be charged for those days on which work on Atmos Energy's facilities is delayed, as provided in the current edition of the KY Standard Specifications for Road and Bridge Construction. Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to the project, the KYTC Resident Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and his decision shall be final and binding upon the Contractor. .

SPECIAL NOTES FOR UTILITY CLEARANCE

IMPACT ON CONSTRUCTION

McCRACKEN, STP 7629 (001)
FD52 073 045X 000-001
US 45X – KENTUCKY AVENUE – PAVEMENT REHABILITATION
Item # 1-2040.0

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE ROAD CONTRACTOR AS INCLUDED IN THIS CONTRACT

Paducah Water has water lines, and Paducah-McCracken JSA has sewer laterals that are included in the roadway contract to be relocated/repaired by an approved contractor from the list agreed upon by both parties:

Cleary Construction, Inc.
2006 Edmonton Road
Tompkinsville, KY 42167
270-487-1748
Darren Cleary – President

Murtco, Inc.
815 Abell Street
Paducah, KY 42003
270-444-0679
Keith Murt, Jr. – President

Twin States Utilities, Inc.
9440 Old Glassgow Rd.
Mount Hermon, KY 42157
270-427-5300
Joe Finley - Owner

SPECIAL NOTES FOR UTILITY CLEARANCE

IMPACT ON CONSTRUCTION

McCRACKEN, STP 7629 (001)
FD52 073 045X 000-001
US 45X – KENTUCKY AVENUE – PAVEMENT REHABILITATION
Item # 1-2040.0

The contractor will be responsible for contacting all utility facility owners on the subject property to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

Please Note: The information presented in this Utility Note is informational in nature and the information contained herein is not guaranteed.

SPECIAL NOTES FOR UTILITY CLEARANCE

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Item # 1-2040.0

AREA UTILITIES CONTACT LIST

Utility Company/Agency	Contact Name	Contact Information
Paducah – McCracken JSA	**John Hodges**	**270-575-0056**
Paducah Water	**Jason Petersen**	**270-442-2746**
AT&T	**Alan Shelby**	**270-444-5048**
Atmos Energy	**Eddie Tucker**	**270-556-2290**
Paducah Power	**Bob Pierceall**	**270-575-4000**
Comcast	**Steve Parmley**	**270-217-2135**

SECTION 01000

GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE

A. This section of the Specifications summarizes in general terms the scope of the Project.

B. Except as otherwise specifically stated in the Contract Documents, provide and pay for all materials, labor, tools, equipment, lights, heat, transportation, superintendence, temporary facilities, construction of every nature, taxes legally collectable because of the Work, and all other services, fees and facilities of every nature whatsoever necessary to execute the Work to be done under the Contract and deliver the Work complete in every respect within the specified Contract Time.

C. All contractors, subcontractors, suppliers, and other employers involved with work at the Project Site shall be responsible for compliance with all federal, state, local, and Project Owner's regulations, standards, and codes in effect during the Contract Time.

1.02 PROJECT

This project consists of the relocation and replacement of approximately 4,850 linear feet of 16" thru 6" ductile iron water mains and associated water and sewer services along Kentucky Avenue from Walter-Jetton Blvd. to Otis Dinning Drive. This project is being implemented to relocate existing water infrastructure to outside of the construction limits of the KY Transportation Cabinet's proposed roadway replacement project along KY Avenue in Paducah.

1.03 RECORD DRAWINGS

At the completion of the Contract Time, the Contractor shall deliver to the Owner, thru the Engineer, the complete intact copy of Record Drawings. Note that it shall be the responsibility of the Contractor to keep an accurate set of As-Built Drawings on the job site at all times. Submission of suitable As-Built Drawings will be required prior to issuance of final payment. In addition, verification by the Engineer that record drawings are periodically maintained will be required prior to each partial payment by the Owner.

1.04 SUBSTITUTIONS

"Approved equal", "equal", and "equal with prior approval" phrases shall be defined as material and/or equipment of similar construction and equal quality only as approved by the Engineer. Requests for approval shall be submitted to the Engineer no less than three (3) working days prior to the opening of bids. No substitutions or equivalents will be considered during the Contract Time, except for minor substitutions due to unavailability of specified items.

1.05 OBSTRUCTIONS

A. All known pipelines and other existing underground installations and structures in the vicinity of the work to be performed under this Contract are shown on the Drawings according to the best information available to the Owner and Engineer. The Contractor shall field verify the horizontal and vertical location of all utility lines within the path of the proposed water main prior to construction of the main.

B. The Owner makes no express or implied guarantee for the accuracy of the information shown. The Contractor shall make every effort to locate all underground pipelines including utility service lines, conduits, and other structures by contacting owners of underground utilities, prospecting, or otherwise, in advance of all earthwork operations.

C. Any delay or inconvenience to the Contractor caused by pipelines or other underground structures or obstructions not shown on the drawings, or found in a location different than those indicated, shall be handled in accordance with the General Conditions.

D. All incidental damage to existing utilities which are shown on the drawings, or which are made known to the Contractor prior to excavation, shall be repaired by the owning utility or the Contractor as directed, at the expense of the Contractor.

E. When an accidentally damaged utility is considered, in the opinion of the owning utility, of an importance to require twenty-four (24) hours per day work, the Contractor shall at all times provide necessary labor and equipment as required to perform the repair or provide aid to the utility in the repair.

F. All obstructions on which work is to be performed by the owning utility or by others shall be carefully exposed by the Contractor without damage and protected. Withhold construction operations as required to allow owning utility to perform necessary work to temporarily or permanently relocate their facility. Provide owning utility working space and access to the job.

G. Obstructions which are replaced within the limits of the Contractor's normal excavation shall be backfilled by the Contractor along with the normal backfilling. Damage to the facility during backfilling shall be the responsibility of the Contractor.

1.06 COMMUNICATIONS

All notices, demands, requests, instructions, reports, approvals, proposals, Change Orders, Field Orders, and claims shall be in writing.

1.07 LAYOUT OF WORK

A. The Contractor shall immediately upon entering the Project Site for the purpose of beginning the work, locate all general reference points and take such action as necessary to prevent their destruction; layout his own and be responsible for, all lines, elevations, and measurements of all work to be executed under the Contract.

The Contractor shall exercise proper precautions to verify fixtures shown on the Drawings before laying out the work, and will be held responsible for any error resulting from his failure to exercise such precautions.

B. The Contractor shall be responsible for the general overall coordination of the work. Each Sub-Contractor shall carefully check the Drawings, Specifications, and the Project Site in order to advise and coordinate their phase of the Work. Each Subcontractor shall leave the required space and clearances for the work of others, field check all dimensions and file a written report to the Engineer where discrepancies occur between the work to be performed and the Drawings, Specifications, or Project Site conditions. If no report is filed prior to approvals of Shop Drawings and Samples, it will be assumed that no conflict occurs. Resolutions of conflicts after Shop Drawings and Sample approvals shall be resolved by the Engineer and the conflict corrected in the field at no increase in the Contract Sum.

1.08 TEMPORARY FACILITIES

A. The Contractor shall provide, install and maintain adequate temporary sanitation facilities at the Site. These temporary facilities shall be approved by the health regulatory agency having jurisdiction at the site and by the Engineer.

B. Upon completion of the work, all temporary contractor equipment and structures shall be removed from the site. At no time shall the sight distance from the stop bar at any intersection be inhibited by the Contractor's equipment or pipe work materials.

1.09 PRODUCT HANDLING

Materials delivered to and stored on the site must be handled in a careful manner as to prevent any damage to the materials. All materials and equipment damaged during manufacture, shipment, delivery, storage, or construction shall be replaced with material or equipment of exactly the same kind by the Contractor.

1.10 TESTING, ADJUSTMENT AND BALANCING OF SYSTEMS

The Contractor shall perform all required testing of installed piping, equipment, etc. as required by these Technical Specifications and the owing utility specifications. Adjustments of process equipment will be the responsibility of the Contractor and/or equipment supplier. All systems shall be adjusted and balanced to the approval of the Engineer prior to project closeout.

1.11 TRAFFIC CONTROL

A. Follow all guidelines as specified in the Kentucky Department of Highways Manual on Uniform Traffic Control Devices. In addition, the following provisions must be met prior to commencing work:

1. Install 48" X 48" permanent "Utility Construction Ahead" signs with two (2) 4" X 4" posts, seven (7) feet high to the lowest portion of the sign, and seven (7) feet from the edge of pavement unless otherwise approved by the Engineer.

2. Use traffic control drums at night in lieu of traffic control cones.

3. Work will not be permitted until proper signals and traffic control measures are implemented.

1.12 REFERENCED STANDARDS

A. Referenced standards and specifications contained in the Technical Specifications are as follows:

1. ACI - American Concrete Institute

2. AISC - American Institute of Steel Construction, Inc

3. ANSI - American National Standards Institute

4. ASA - American Standards Association(also designed by USASI)

5. ASTM - American Society for Testing Materials, Inc.

6. AWS - American Welding Society

7. AWWA - American Water Works Association

8. PCA - Portland Cement Association

9. UL - Underwriter's Laboratories, Inc.

10. USASI - United States of American Standards Institute (also designated as ASA)

11. Kentucky Department of Highways, Standard Specifications for Road and Bridge Construction, latest Edition.

12. ASME - American Society of Mechanical Engineers

13. ASI - American Steel Institute

14. NBFU - National Board Fire Underwriters

SECTION 01720

PROJECT RECORD DOCUMENTS

PART I – GENERAL

1.1 DESCRIPTION

A. Work Included

1. During the construction process, maintain an accurate record of changes and other pertinent, required measurements in the Contract Documents, as described in Section 3.1 below.

2. Upon completion of the Work, transfer the recorded changes and other pertinent, required measurements to a set of Record Documents, as described in Section 3.2 below.

B. Related Work

1. Documents affecting work of this Section include, but are not necessarily limited to, Project Drawings, General Conditions, Supplementary Conditions, and Technical Specifications of the Project Manual.

2. Other requirements affecting Project Record Documents may appear in other pertinent Sections in the Project Manual.

1.2 QUALITY ASSURANCE

A. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff, as approved by the Engineer. Identify this person during the pre-construction meeting. During construction, maintain one set of job record Drawings strictly for use in preparation of Record Drawings.

B. Accuracy of Records

1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each sheet of the project Drawings.

2. Accuracy of records shall be such that future searches for items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Drawings.

C. Make entries within one calendar week of installation of the facilities.

1.3 SUBMITTALS

A. The Engineer's approval of the current status of Project Record Documents may be prerequisite to the Engineer's approval or requests for partial payment and shall be a prerequisite to the Engineer's approval of the request for final payment.

B. Prior to submitting each request for partial payment, secure the Engineer's (or his assigned field representative's) approval of the current status of the Project Record Documents.

C. Prior to submitting request for final payment, deliver the final Project Record Documents to the Engineer and secure his approval.

1.4 PRODUCT HANDLING

A. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the Work. After project completion, transfer all of the recorded data to the final Project Record Documents.

B. In the event of Contractor's loss of recorded data, use means necessary to field verify and secure the data to the Engineer's approval.

1. If necessary, in the opinion of the Engineer, remove and replace concealing materials.

2. If removal and replacement of concealing materials is warranted, provide replacements to the standards originally required by the Contract Documents and at no additional cost to the Owner.

PART 2 – PRODUCTS

2.1 RECORD DOCUMENTS

A. Job Set(s) – Promptly following receipt of the Owner's Notice to Proceed, secure from the Engineer at no charge to the Contractor three complete sets of all Contract Documents. Maintain one set of documents on the job site for day to day use. Maintain one set on the job site for day to day Record Drawing preparation. Obtain Engineer's approval, if in the Contractor's opinion, he can maintain accurate day to day Record Drawing information on his day to day use set of Contract Documents.

B. Office Set – Maintain one set of Contract Documents off-site for use during final data / information transfer and for delivery of final Record Drawings.

C. Final Record Documents – Upon substantial completion of the Work, and prior to issuance of final payment request, deliver one set to the Engineer for approval.

PART 3 – EXECUTION

3.1 MAINTENANCE OF JOB SET

A. Immediately upon receipt of the job set described in Paragraph 2.1-A above, identify each of the Documents with the title, "RECORD DOCUMENTS – JOB SET" and "RECORD DOCUMENTS – FINAL SET."

B. Method of Drawing Entry

1. Using an erasable, colored-pencil (not ink or indelible pencil), clearly describe changes or other required dimensional data by graphic line and note as deemed reasonable by the Engineer.

2. Date all entries to obtain a somewhat accurate record of facility installation dates.

3. Call attention to the entry by a "cloud" drawn around the areas or areas affected.

4. In the event of overlapping changes, use different colors for the overlapping changes.

C. Required Drawing Entries

1. Record any changes to the Contract Documents in the Record Documents. Changes may include but are not limited to: grade or alignment changes, plan and/or profile dimensional changes, conduit re-arrangements, electrical or control reconfiguring, structural design modifications, piping, fitting, or manhole re-alignments, etc.

2. Record the required dimensional information (whether specifically changed in the contract or not) for underground utilities as follows:

   (a) Where utilities generally parallel roadways, record perpendicular, lateral dimensions (to the nearest 0.5 feet) from roadway centerlines to the pipe or conduit centerlines on maximum of 100' intervals along the roadway and where the utility alignment changes.

   (b) Record depth of cover dimensions (to the nearest 0.1 feet) at each of the locations referenced in Section 3.1.C.2.a above and at each fitting (whether vertical or horizontal) or fitting cluster along the utility alignment.

   (c) Record three individual lateral dimensions (to the nearest 0.5 feet) from valve and manhole centerlines to permanent physical objects such as headwalls, fire hydrants, building corners, roadway centerlines, etc., that are shown on the Drawings.

   (d) Record depths of cover (to the nearest 0.1 feet), centerline stations and offset dimensions (to the nearest 0.5 feet and indicating left or right offsets) along a gravity sewer line, for each lateral service.

   (e) Record depth of cover dimensions (to nearest 0.5') for all bored service lines at intervals not exceeding 20' along the bore path. This information shall be sketched on the appropriate cross section to depict the actual bore path.

D. Schematic Conversion

1. In some cases on the Drawings, the arrangement of conduits, ducts, circuits, piping, fittings, manholes, services, and similar items, are shown schematically and are not intended to portray precise physical layout.

   (a) In accordance with the contract intent, final physical arrangement is determined by the Contractor, but subject to the Engineer's approval.

   (b) However, design of future modifications of the facility may require accurate information as to the final physical layout of items that are shown only schematically on the Drawings.

2. Show on the Record Drawings, by dimension accurate to within (.01 feet), the centerline of each run of items such as are described in subparagraph 3.1-D-1 above.

   (a) Clearly identify the item by accurate note such as "cast iron drain", "(size & material) water or sewer line", "(size & material) conduit", "(size & degree) fitting", etc.

   (b) Show, by symbol, note, or elevation the vertical location of the item ("under slab", "in ceiling plenum", "exposed", "feet MSL", etc.).

3. The Engineer may waive the requirements for conversion of schematic layouts where, in the Engineer's judgement, conversion serves no useful purpose. However, do not rely upon waives being issued except as specifically issued in writing by the Engineer.

3.2 FINAL PROJECT RECORD DOCUMENTS

A. The purpose of the final Project Record documents is to provide factual information regarding all aspects of the Work, both concealed and visible, to enable future

modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.

B. Transfer of data to Drawings

1. Carefully transfer change data shown on the job set of Record Drawings to the corresponding Office Set of Drawings, coordinating the changes as required.

2. Clearly indicate at each affected detail and other Drawing a full description of changes made during construction, and the actual location of all required items.

3. Identify each entry by drawing a "cloud" around the area or areas affected.

4. Show entries neatly, consistently, and with the proper notations in a well-organized workmanlike manner.

C. Review and submittal

1. Submit the completed, final set of Project Record Documents to the Engineer as described in Section 1.3 above.

2. Participate in review meetings as required.

3. Make required changes and promptly deliver the final Project Record Documents to the Engineer.

3.3 CHANGES SUBSEQUENT TO ACCEPTANCE – The Contractor has no responsibility for recording changes in the Work subsequent to Final Completion of the project and final acceptance of the Record Drawings, except for changes resulting from work performed under Warranty.

END OF SECTION

SECTION 02220

EARTHWORK GENERAL

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Excavate, backfill, compact, and grade the site to the elevations shown on the Drawings, as specified herein, and as needed to meet the requirements of the construction shown in the Contract Documents. All excavation shall comply also with Kentucky OSHA 29 CFR Part 1926, Subpart P. Failure to comply with Subpart P will justify the issuance of a stop work order by the Owner.

B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Use equipment adequate in size, capacity, and numbers to accomplish the work of this Section in a timely manner.

C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the soil engineer.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

A. Fill and backfill materials:

1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension, and with not more than 15% of the rocks or lumps larger than 2-3/8" in their greatest dimension.

2. Fill material is subject to the approval of the soil engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soils free from roots and other deleterious matter.

3. Provide fill material free of rocks having a dimension greater than 1" in the upper 12" of fill or embankment.

2.02 TOPSOIL

A. Where and if shown on the Drawings or otherwise required, provide topsoil consisting of friable, fertile soil of loamy character, containing an amount of organic matter normal to the region, capable of sustaining healthy plant life, and reasonably free from subsoil, roots, heavy or stiff clay, stones, noxious weeds, sticks, brush, litter, and other deleterious matter.

B. Obtain topsoil from sources within the project limits, or provide imported topsoil obtained from approved sources outside the project limits, or from both sources.

2.03 SELECT BACKFILL

A. Use select backfill only as directed by the Engineer or as shown on the drawings.

B. Materials utilized for select fill shall be subject to the Engineer's approval. Provide select fill meeting the following requirements:

1. Compacted Limestone. Provide and place limestone dense graded aggregate conforming to Section 805 of the Kentucky Department of Highways Standard Specifications.

C. Payment will be made to the Contractor for the amount of select fill installed at the field engineer's request. Payment will not be made to the Contractor for select fill utilized in the replacement of defective work.

2.04 80 PSI FLOWABLE FILL CONCRETE

A. General. Provide flowable fill meeting the requirements specified in the following sections of the Kentucky Highway Department's current Standard Specifications for Road and Bridge Construction:

Portland Cement, Type I, Section 801
Sand, Section 804
Fly Ash, Class F, Section 844
Water, Section 803

Unless otherwise approved by the Engineer, proportion flowable fill as follows, per cubic meter (cubic yard):

Cement, 14 kg (30 lbs.)
Fly Ash, Class F, 136 kg (300 lbs.)
Sand (S.S.D.), 1360 kg (3000 lbs.)
Water (Maximum), 250 kg (550 lbs).

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 PROCEDURES

A. Utilities:

1. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the Owner.

2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.

3. If service is interrupted as a result of work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.

4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Engineer and secure his instructions.

5. Do not proceed with permanent relocation of utilities until written instructions are received from the Engineer.

B. Placing Flowable Fill Concrete:

Unless otherwise approved by the Engineer, deliver flowable fill in revolving drum truck mixers in accordance with Section 601 of the Kentucky Highway Department's current Standard Specifications for Road and Bridge Construction to ensure that the mixture is in suspension when placed. Agitation will be required during transportation and waiting time. Subsidence may occur if the mixer is not agitated. Place flowable fill by discharging directly from truck chutes into the trench or by means of conveyors, buckets or pumps.

Place flowable fill a minimum of eight (8) hours prior to the addition and compaction of any material above it unless other wise directed by the Engineer.

Unless otherwise indicated on the Drawings or in these Specifications, or unless otherwise directed by the Owner or Engineer, do not place flowable fill concrete directly on or around buried pipes. Any newly installed or existing pipelines located in a trench or other excavation to be backfilled with flowable fill concrete is to be bedded in granular material in keeping with the Drawing details from four (4) inches below to twelve (12) inches above the pipe for the entire trench width before placement of the flowable fill concrete.

C. Protection of persons and property:

1. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.

2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.

3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.

D. Dewatering:

1. Remove all water, including rain water, encountered during construction to an approved location by pumps, drains, and other approved methods.

2. Keep excavations and site construction area free from water.

E. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

F. Maintain access to adjacent areas at all times.

3.03 TRENCH EXCAVATION

A. General. Excavate trenches in open cut, by a trencher or backhoe of sufficient depth and width to meet the requirements of the installation section of these specifications. Provide no abrupt changes in grade of the main.

B. Trenching Operations. Conduct the excavation in such a manner as to cause the least interruption or hazard to traffic. Exercise caution to avoid damage to surfaced roadways and repair any such damage to an equal of its original condition. Restore drainage structures damaged during the work, or obstructed by operations, to satisfactory condition as soon as possible. Where traffic must cross open trenches, provide suitable bridges and flagmen.

C. Line Excavation. Make the excavation so that the entire length of the main shall lie upon the bottom of the trench. Excavation around all connections shall be of sufficient size to admit a free access for making the required connection. Where noted on the Plans or required for construction, remove excavated material from the trench by loading directly into a truck, and hauling to a predetermined dump site not located within the realm of the project.

D. Length. Do not advance the excavation of the trench more than fifty (50) feet ahead of the pipe work, except where it is necessary to drain wet ground. The Contractor must assume the risk of meeting water, quicksand, hardpan, boulder clay, and existing utility lines.

E. Excavated Material. Store excavated materials to be used as backfill in a neat pile

adjacent to the excavation, where possible. Do not endanger the work, traffic, or obstruct drainage unnecessarily. Remove excavated materials not suitable for backfilling, or surplus backfill and suitably dispose of within a twenty-four (24) hour period. Where noted on the Plans or required for construction, remove excavated material from the trench, load directly into a truck, and haul to a predetermined dump site not located within the realm of the project.

F. Open Trench. Do not open more than one hundred (100) linear feet of trench at any one time, including sections partially backfilled and being tested.

G. Ditch Protection. To prevent caving or to protect existing roadways, utilities, or structures, sheet or brace the trench as necessary. Sheeting, where required, shall remain in place until the pipe has been laid and tested. Where sheeting is place, the earth above the pipe shall be well tamped for a depth of at least six (6) inches above the pipe barrel.

H. Dewatering. Keep trenches and other excavations adequately dewatered. Place discharge from pumps, drains, or bailing in such a way as to not introduce turbidity, sediments, or other pollutants into ditches, storm drains or natural drainage ways.

I. Trench Bottoms. Follow uniform grades. Trench dimensions shall conform to the typical details of the plans, with additional excavation at the couplings to allow full pipe bearing.

J. Pipe Bearing Surface. Dress the trench so that the barrel of the pipe bears evenly for its full length. Dig bell holes at each joint, dimensions of the holes to be sufficient to permit proper jointing.

Do not lay pipe resting on rock, blocking, or other unyielding objects. Where the trench bottom uncovered at subgrade is rock, cut the trench and lay the pipe on an evenly spread and compacted cushion. The cushion shall be at least four (4) inches and not more than eight (8) inches in depth above bottom of trench and shall uniformly support the barrel of the pipe. Construct the cushion from material indicted for use as pipe bedding.

Where the trench bottom is soft and in the opinion of the Engineer, cannot support the pipe, cut the trench as directed and install a suitable cradle. In general, the cradle shall be of pit run sand and gravel, or of small crushed stone or chips.

3.04 FILLING AND BACKFILLING

A. General:

1. For each classification listed below, place acceptable soil material in layers to required subgrade elevations.

2. In excavations: Use satisfactory excavated or borrow material.

3. Under roadway pavements: Use flowable fill as noted on drawings

4. Under drives/parking: Use compacted select backfill.

B. Backfill excavations as promptly as progress of the Work permits, but not until completion of the following:

1. Acceptance of construction below finish grade including, where applicable, dampproofing and waterproofing.

2. Inspecting, testing, approving, and recording locations of underground utilities.

3. Removing concrete formwork.

4. Removing shoring and bracing, and backfilling of voids with satisfactory materials.

5. Removing trash and debris.

6. Placement of horizontal bracing on horizontally supported walls.

C. Ground surface preparation:

1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious matter from ground surface prior to placement of fills.

2. Plow, strip, or break up sloped surfaces steeper than one vertical to four horizontal so that fill material will bond with existing surface.

3. When existing ground surface has a density less than that specified under "compacting" for the particular area, break up the ground surface, pulverize, moisture condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

D. Placing and compacting:

1. Place backfill and fill materials in layers not more than 8" in loose depth.

2. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.

3. Compact each layer to required percentage of maximum density for area.

4. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.

5. Place backfill and fill materials evenly adjacent to structures, to required elevations.

6. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift.

7. Where the construction includes basement or other underground walls having structural floors over them, do not backfill such walls until the structural floors are in place and have attained sufficient strength to support the walls.

3.05 GRADING

A. General:

1. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.

2. Smooth the finished surfaces within specified tolerance.

3. Compact with uniform levels or slopes between points where elevations are shown on the Drawings, or between such points and existing grades.

4. Where a change of slope is indicated on the Drawings, construct a rolled transition section having a minimum radius of approximately 8'0", unless adjacent construction will not permit such a transition, or if such a transition defeats positive control of drainage.

B. Grading outside building lines:

1. Grade areas adjacent to buildings to achieve drainage away from the structures, and to prevent ponding.

2. Finish the surfaces to be free from irregular surface changes, and:

a. Shape the surface of areas scheduled to be under walks to line, grade, and cross-section, with finished surface not more than 0.10 ft above or below the required subgrade elevation.

b. Shape the surface of areas scheduled to be under pavement to line, grade, and cross-section, with finished surface not more than 0.05 ft above or below the required subgrade elevation.

3.06 COMPACTING

A. Control soil compaction during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D698.

B. Provide not less than the following maximum density of soil material compacted at plus or minus 2% of optimum moisture content for the actual density of each layer of soil material in place, and as approved by the Engineer.

1. Structures: Compact each layer of fill material or backfill material at 95% of maximum density.

2. Lawn and Unpaved Areas: Compact each layer of fill material or backfill material at 90% of maximum density.

3. Walks: Compact each layer of fill material or backfill material at 92% of maximum density or the minimum percent of maximum density as required by the governmental agency having jurisdiction over the work, whichever is more stringent.

4. Pavements: Compact each layer of fill material or backfill material at 95% of maximum density or the minimum percent of maximum density as required by the governmental agency having jurisdiction over the work, whichever is more stringent.

C. Moisture control:

1. Where layer of soil material must be moisture-conditioned before compacting, uniformly apply water to layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.

2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.

3. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value as determined by moisture density relation tests approved by the Engineer.

3.07 FIELD QUALITY CONTROL

A. Secure the Engineer's inspection and approval of fill layers before subsequent construction is permitted thereon.

Density testing will be required on all fill layers located under structures and paved surfaces or as directed by the Engineer. All testing shall be in accordance with ASTM D2922.

B. At the expense of the Contractor, the Contractor shall be responsible for providing at least the following tests to the approval of the Engineer:

1. At structures, at least one field density test for every 1,000 square feet of area, but not less than three tests (each lift).

2. At paved areas, at least one field density test for every 2000 sq ft of paved area, but not less than three tests.

3. In each compacted fill layer, one field density test for every 2000 sq ft of overlaying paved area, but not less than three tests.

C. If, in the Engineer's opinion based on reports of the testing laboratory, subgrade or fills which have been placed are below specified density, provide additional compacting and testing under the provisions of these Specifications.

3.08 MAINTENANCE

A. Protection of newly graded areas:

1. Protect newly graded areas from traffic and erosion, and keep free from trash and weeds;

2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.

B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

END OF SECTION

SECTION 02221

EARTHWORK - UNDERGROUND UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Trench, backfill, and compact as specified herein and as needed for installation of underground utilities associated with the Work.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. Section 02220: Earthwork - General.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.

C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the Engineer.

PART 2 - PRODUCTS

2.01 See Section 02220 Subpart 2.01 of this Specification.

2.02 OTHER MATERIALS

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 FINISH ELEVATIONS AND LINES

Shall be as shown on drawings.

3.03 PROCEDURES

See Section 02220 Subpart 3.04 of this Specification.

3.04 TRENCHING

A. Comply with pertinent provisions of Section 02220, and the provisions of this Section.

B. Provide sheeting and shoring necessary for protection of the Work and for the safety of personnel.

1. Prior to backfilling, remove all sheeting.

2. Do not permit sheeting to remain in the trenches except when, in the opinion of the Engineer, field conditions or the type of sheeting or methods of construction such as use of concrete bedding are such as to make removal of sheeting impracticable. In such cases, the Engineer may permit portions of sheeting to be cut off and remain in the trench.

C. Open cut:

1. Excavate for utilities by open cut.

2. If conditions at the site prevent such open cut, and if approved by the Engineer, trenching may be used.

3. Short sections of a trench may be tunneled if, in the opinion of the Engineer, the conductor can be installed safely and backfill can be compacted properly into such tunnel.

4. Where it becomes necessary to excavate beyond the limits of normal excavation lines in order to remove boulders or other interfering objects, backfill the voids remaining after removal of the objects as directed by the Engineer.

5. When the void is below the subgrade for the utility bedding, use suitable earth materials and compact to the relative density directed by the Engineer, but in no case to a relative density less than 90%.

6. When the void is in the side of the utility trench or open cut, use suitable earth or sand compacted or consolidated as approved by the Engineer, but in no case to a relative density less than 80%.

7. Remove boulders and other interfering objects, and backfill voids left by such removals, at no additional cost to the Owner.

8. Excavating for appurtenances:

a. Excavate for manholes and similar structures to a distance sufficient to leave at least 12" clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.

b. Overdepth excavation beyond such appurtenances that has not been directed will be considered unauthorized. Fill with sand, gravel, or lean concrete as directed by the Engineer, and at no additional cost to the Owner.

D. Trench to the minimum width necessary for proper installation of the utility, with sides as nearly vertical as possible. Accurately grade the bottom to provide uniform bearing for the utility.

E. Depressions:

1. Dig bell holes and depressions for joints after the trench has been graded. Provide uniform bearing for the pipe on prepared bottom of the trench.

2. Except where rock is encountered, do not excavate below the depth indicated or specified.

3. Where rock is encountered, excavate rock to a minimum overdepth of 4" below the trench depth indicated or specified.

F. Where trenching occurs in existing lawns, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.

G. Cover:

Provide minimum trench depth indicated on the standard details in the drawings or as directed by the Engineer.

3.05 BEDDING

Provide bedding as indicated on the Drawings.

3.06 BACKFILLING

A. General:

1. Except as otherwise specified or directed for special conditions, backfill trenches to the ground surface with material approved by the Engineer.

3. Reopen trenches which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct to the approval of the Engineer.

4. Do not allow or cause any of the Work performed or installed to be covered up or enclosed by work of this Section prior to required inspections, tests, and approvals.

5. Should any of the Work be so enclosed or covered up be-fore it has been approved, uncover all such Work and, after approvals have been made, refill and compact as specified, all at no additional cost to the Owner.

B. Lower portion of trench:

1. Deposit approved backfill and bedding material in layers of 6" maximum thickness, and compact with suitable tampers to the density of the adjacent soil, or grade as specified herein, until there is a cover of not less than 24" over utility lines. Compact under piping haunches by hand methods, where applicable.

2. Take special care in backfilling and bedding operations to not damage pipe and pipe coatings.

C. Remainder of trench:

1. Except for special materials for pavements, backfill the remainder of the trench with material free from stones larger than 6" or ½ the layered thickness, whichever is smaller, in any dimension.

2. Deposit backfill material in layers not exceeding the thickness specified, and compact each layer to the minimum density directed by the Engineer.

D. Adjacent to buildings: Mechanically compact backfill within ten feet of buildings.

3.07 DRILLING

A. General. All drilling under the highway, blacktop roads, drives, walks, signs, parking areas and any other locations designated by the Engineer, shall be performed by a traditional rotary drill with guide tracks or with the prior approved use of direction drilling technology and shall be drilled large enough to accommodate the respective pipe including bells, joints, couplings, etc., to the satisfaction of the Engineer.

B. Right-of-Way Crossing. The crossing described above shall be made in accordance with the requirements and regulations of the authority under whose right-of-way the crossing is being made and in accordance with the details shown on the Drawings.

C. Crossing Permits. The Contractor shall maintain copies of all permits on site at all times and adhere to provisions specified within the permit document.

D. Service Crossing. The customer service line to the meter boxes shall be drilled under the existing highway or blacktop surface in a manner not to destroy any of the existing surface.

E. Existing streets and driveways damaged by excavation shall be restored to their

original condition.

F. Driveways, as excavated for the water main, shall be replaced within twenty-four (24) hours; however, accessibility to the property shall not be impeded beyond the end of a regular working day. Approved steel bridging material and/or backfilling shall be used to provide a smooth and safe access to said property. Provide property owner notifications a minimum of 48 hours prior to excavating driveways.

END OF SECTION

SECTION 02490

LANDSCAPING AND SEEDING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Provide lime, fertilizer, seed, and mulch as specified herein, and needed for a complete and proper installation.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. Section 02220: Earthwork General.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1. Seeding Material: Meet or exceed the specifications of the Kentucky Seed Improvements Association.

1.03 SUBMITTALS

A. Submit six (6) copies of product data sheets on material to be used.

B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. Complete materials list of items proposed to be provided under this Section.

2. Sufficient data to demonstrate compliance with the specified requirements.

PART 2 - PRODUCTS

2.01 FERTILIZER

Provide commercial balanced 10-10-10 fertilizer delivered to the site in bags labeled with the manufacturer's guaranteed analysis. Uniformly apply 1,000 pounds per acre of premium fertilizer prior to seeding.

2.02 SOIL AMENDMENT

Provide agricultural limestone. Uniformly apply two (2) tons of agricultural limestone per acre immediately prior to seedbed preparation.

2.03 MULCH

Provide wheat and rye straw. Uniformly apply two (2) tons per acre immediately subsequent to seeding.

2.04 GRASS SEED

A. General: Provide Kentucky 31 Fescue seed which is:

1. Free from noxious weed seeds, and recleaned;

2. Grade A recent crop seed;

3. Treated with appropriate fungicide at time of mixing; and

4. Delivered to the site in sealed containers with dealer's guaranteed analysis.

B. Uniformly apply three hundred (300) pounds per acre immediately following the application of the lime and fertilizer.

C. In the event that seeding is performed between October 15th and March 31st, uniformly apply one hundred (100) pounds per acre of annual rye in addition to the above-mentioned three hundred (300) pounds per acre of Kentucky 31 Fescue.

2.05 PLANT MATERIALS

Provide the plant materials shown on the schedule in the Drawings.

2.06 OTHER MATERIALS

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 SOWING TURF GRASS

A. Stage 1: Initial Dressing.

1. Definition. Initial dressing consists of backfilling, compacting (if required), and mounding the excavated material over the utility trench. Rake the remaining construction path free of earth, debris, pipe, etc., except within a section limited to two feet (2') either side of the trench. Mound earth to a height not to exceed three feet (3').

2. Scheduling. Do not lay main more than three hundred feet (300') ahead of the Stage 1 dressing area unless prior approval is obtained from the field engineer, and in no case shall construction areas remain undressed for more than three (3) days.

B. Stage 2: Final Dressing.

1. Definition. Final dressing consists of grading all disturbed areas within the scope of the project to their specified elevations and slopes, raking and disposing of rocks, clods, and debris from the Stage 1 dressing areas, seeding, liming, fertilizing, and mulching the State 1 dressing areas to the satisfaction of the Owner and Engineer.

2. Preparation of Seed Bed. Where the area to be seeded is not sufficiently pulverized to provide good seed bed, the seed bed shall be prepared by pulverizing the soil to a minimum depth of two inches (2") with a disk harrow, drag harrow, spike tooth or similar tool, im-mediately prior to seeding. All clods, rocks and undesirable material that would interfere with seeding operations shall be removed.

3. Scheduling. Upon completion of the underground work as described in these Contract Documents and as shown on the Drawings, perform the Stage 2 final dressing. In the event that the Contractor is unable to re-enter the Stage 1 areas due to adverse weather conditions, the Contractor shall request a time

extension in writing to the Engineer. After approval from the Engineer and the Owner, leave the project and return at the earliest practical time to complete final dressing.

3.03 INSPECTION

A. In addition to normal progress observations, schedule and conduct the following formal inspections, giving the Engineer at least 24 hours advance notice of readiness for inspection:

1. Final inspection after completion of sowing:

Schedule this inspection sufficiently in advance, and in cooperation with the Engineer in order that final inspection may be conducted within 24 hours after completion of sowing.

2. Final inspection at the end of the maintenance period, provided that previous deficiencies have been corrected.

3.04 MAINTENANCE

A. Maintain planting, starting with the planting operations and continuing for 30 calendar days after planting is complete and approved by the Engineer.

B. Work included:

1. Watering, weeding, cultivating, spraying, and pruning necessary to keep the plant materials in a healthy growing condition and to keep the planted areas neat and attractive throughout the maintenance period.

2. Provide equipment and means for proper application of water to those planted areas not equipped with an irrigation system.

3. Protect planted areas against damage, including erosion and trespassing, by providing and maintaining proper safeguards.

C. Replacements:

1. At the end of the maintenance period, all plant material shall be in a healthy growing condition.

2. During the maintenance period, should the appearance of any planted area indicate weakness and probability of dying, immediately resow that area without additional cost to the Owner.

D. Extension of maintenance period:

Continue the maintenance period at no additional cost to the Owner until previously noted deficiencies have been corrected, at which time the final inspection will be made.

PART 4 - PAYMENT

4.01 Landscaping and Seeding Pay Limits.

The pay limits for landscaping and seeding shall be limited to ten feet (10') either side of the installed water meters and sewer cleanouts located outside of the roadway construction project limits. Landscape and seed all areas outside the pay limits in accordance with the provisions of this section. Consider landscaping and seeding work outside of the designated pay limits incidental to the contract. Do not include the additional landscaping and seeding work in the pay quantity for landscaping and seeding. No payment shall be made for landscaping and seeding until Stage 2 dressing is complete to the satisfaction of the Owner and the Engineer.

END OF SECTION

SECTION 02713

WATER DISTRIBUTION SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Provide treated water distribution system as shown on the Drawings, specified herein, and needed for a complete and proper installation.

B. Related Work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections, in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.03 SUBMITTALS

A. Submit six copies of product data sheets on material to be used.

B. Product data:

1. Materials list of items proposed to be provided under this Section;

2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;

3. Names and addresses of the nearest service and maintenance organization that readily stocks repair parts;

4. Manufacturer's recommended installation procedures which, when approved by the Engineer, will become the basis for accepting or rejecting actual installation procedures used on the Work.

PART 2 - PRODUCTS

2.01 Pipe, Fittings, and Accessories:

A. General - Provide pipe, fittings, and accessories complying with the following requirements:

B. Pipe:

1. Ductile iron pipe:
   a. Provide Class 350 ductile iron pipe complying with ANSI A-21.51 (AWWA C151).

b. Use cement mortar lining complying with ANSI A-21.4 (AWWA C104) with a bituminous exterior seal coat.

c. Provide 8 mil thick, polyethylene meeting the requirements of ANSI A-21-5 (AWWA C105). All D.I.P. shall be wrapped. Cost of poly wrap is incidental to the cost of D.I.P.

2. Plastic pipe:

a. For pipe sizes 4" thru 12" use PVC pipe conforming to standards set forth in AWWA C900 with a pressure class of 200 psi.

3. High Density Polyethylene Pipe (HPDE).

a. Use ductile iron pipe size (DIPS) with a standard dimension ratio (SDR) of 11 with a working pressure rating of 160 psi and conforming to ASTM 3350 as manufactured by ISCO Industries (PE 3608/3408) or approved other.

C. Joints:

1. Ductile iron push on joint:

Comply with ANSI A-21.11 (AWWA C111).

2. Ductile iron flanged joint:

Comply with either ANSI A-21.15 (AWWA C115) with a 125 pound flanged joint or ANSI B-16.1 - ANSI B16.5 with a 125 pound cast iron "Uni-Flange" adapter as manufactured by Uni-Flange Corporation.

3. Plastic pipe:

Provide a push on type joint with a continuous elastomeric ring gasket compressed into the annular space between bell and spigot end of pipe complying with ASTM D3139.

4. HDPE. Form joints by heat fusion method as described in the Driscopipe "Systems Installation Manual" and conforming to ASTM D 3261.

5. Non-Polyethylene to Polyethylene Pipe Connections. Make non-polyethylene to polyethylene pipe connections with the aid of a MJ adapter kit, as appropriate. Provide and install cascade style CPS pipe stiffeners (or approved equal) in each end of HDPE pipe where transitioning to a non-polyethylene material. The cost of stiffeners shall be considered incidental to the unit price for installing HDPE piping.

D. Fittings:

1. Use mechanical joint fittings for all exterior below grade pressure piping

complying with AWWA C153.

2. Use cement lining complying with ANSI A-21.4 (AWWA C104) with a bituminous seal coat.

3. Use HDPE fittings where noted on the Drawings conforming to ASTM 3261 and ASTM 3350.

4. All fittings must be manufactured in the United States of America unless otherwise approved by the Engineer.

E. Valves:

1. Gate Valves:

a. Use resilient seated gate valves complying with AWWA C509 with a non-rising stem, double O-ring seal stuffing box and iron body with epoxy coated interior surfaces complying with AWWA C550. Working pressure of 250 psi designed to work equally well with pressure on either side of the gate. Use American Flow Control Series 2500 or approved other.

b. Provide connections as required for the piping in which they are installed.

c. Provide all exterior below grade valves with standard operating nut and all interior valve with handwheel. Provide tee handle socket operating wrenches of suitable size.

d. Provide below grade valves with valve boxes of the screw type adjustable pattern with a lid marked water.

e. Valves 3" and smaller:

(1) Provide all bronze, screwed, single wedge disc, screw in bonnet, packing gland, and nut, with a non-rising stem.

(2) Provide below grade valves with a suitable precast concrete box with a lid marked water.

2. Butterfly valves:

a. Provide valves complying with AWWA C504.

b. Provide Henry Pratt Co. Model MK II or approved other.

3. Tapping Valves. Use tapping valves meeting the general operating and material requirements of Section E.1. of this specification. Use American-Flow Control Series 2500 mechanical joint valves, or approved equal.

4. Valve Boxes. For butterfly valves, use cast iron, slip type adjustable pattern,

similar and equal to Bingham Taylor or Utility Pipe Model CVB562. For gate valves, use 2 piece cast iron screw type adjustable pattern, similar and equal to Tyler Union 6850. The boxes shall have a lid marked "water." The valve boxes shall be of sufficient length to permit the valve to set at the depth indicated by required cover on the pipe shown on the Drawings. Centering ring to be provided.

F. Restrained Joint Gaskets. Use restrained joint gaskets in all installation within steel encasement and as noted on the Drawings. In addition, use restrained joint gaskets in all ductile iron fittings used for creek crossings and in all joints within one pipe joint connections either side of steel encasement. Use "Field Lok" gaskets as manufactured by U.S. Pipe and Foundry Company. Gaskets shall be manufactured in the United States.

G. Thrust Restraint Glands for Ductile Iron Pipe. Use thrust restraint glands ensuring 360° contact between the gland and the pipe wall. Uni-Flange Series 1400 joint restraint devices as manufactured by Ford Meter Box Company, Inc. or approved other. Use thrust restraint glands on each mechanical joint connection 4" in diameter and larger.

H. Thrust Restraint Glands for PVC Pipe. Use thrust restraint glands ensuring 360° contact between the gland and the pipe wall. Use Uni-flange Series 1500 joint restraint devices as manufactured by Ford Meter Box Company, Inc. or approved other. Use thrust restraint glands for PVC pipe on each mechanical joint connection 4” in diameter and larger.

NOTE: SO-EZ MJ gland snap-on gaskets, as manufactured by Ford Meter Box Company, Inc. shall not be accepted for use on any mechanical joint piping or restraint.

I. Joint Restraint Glands for Ductile Iron Pipe. Use joint restraint glands ensuring 360° contact between the gland and the pipe wall. Use Uni-Flange Series 1390 joint restraint devices as manufactured by Ford Meter Box Company, Inc., or approved other. Use joint restraint glands at field engineer's discretion or as shown on the Plans.

J. Stainless Steel All-thread Rods. Use 3/4" diameter stainless steel all-thread rods complying with ASTM Type 303 stainless steel. Use rods at field engineer's discretion or as shown on the Plans. Cost associated with contractor installation, equipment, materials, etc., is incidental to the cost for pipe installation.

K. Service Saddles.

A. Use service saddles Series 101BS or 202BS style as manufactured by Ford Meter Box Company or approved equal, with all service connections made on PVC pipe. See drawings
B. Use corporation stop F1000-NL style or FB1100-NL style as manufactured by Ford Meter Box or approved equal, with all service connections on PVC or ductile iron pipe. See drawings.
C. For 2 inch air release valves installed along HDPE pipe, use Frialen VA-TL service saddles (DIPS) or approved equal.

L. Tapping Sleeves. Use stainless steel tapping sleeves as manufactured by Romac Industries, Inc., Seattle, Washington, or approved equal.

M. Steel Casing Pipe. Use new steel casing pipe conforming to ASTM A139. All encasement shall have a minimum yield strength of 35,000 psi and a minimum thickness of .25 inches for casing diameter of 16 inches and less, 0.312 inch thickness for casing diameters of 18, 20, and 22 inches, and 0.344 inch thickness for casing diameter of 24 inches. Coat the outside of all steel encasement pipe with either an epoxy or bituminous coating. Casing certifications will be required with material submittals.

N. Fire Hydrants.

1. General.

a) City System

Use fire hydrants complying in all respects with the latest revision for AWWA C502. Use fire hydrants with one 4 1/2 inch pumper nozzle with National Standard Thread and two 2 1/2 inch bronze hose nozzles with National Standard Thread. Secure all caps with long heavy chains. Use hydrants with a one piece bronze operating nut and standard dimensions to be opened in a counterclockwise direction. Use hydrants with a compression main valve, bronze seat ring with bronze seating, bronze upper plate, high tensile steel stem, and O-ring seals. The inlet valve opening shall be 5 1/4 inches diameter with 6 1/2 inch I.D. standpipe section and a 6 inch high strength cast iron inlet connection.

Use hydrants with replaceable, breakable sections, or components such that in the event the barrel is broken off, the valve will remain closed, the barrel will not be damaged, and the stem will not be bent.

Furnish hydrants from the factory with one shop coat of bright red Inertol Rust Inhibitive No. 621 Primer with a minimum dry mil thickness of 1.5

Use American-Darling, B-84-B. Paint hydrants red as soon as they are installed.

2. Hydrant Valves. Equip all 5 1/4 inch hydrants with 6" gate valves as shown on the Drawings.

3. Anchoring Tee. Use standard mechanical joint anchoring tees with a split ductile iron rotating gland on the branch. Use trim tyte ductile iron mechanical joint anchoring tees as manufactured by U.S. Pipe and Foundry Company, Birmingham, Alabama, or an approved equal. All hydrants shall be installed through the use of hydrant anchoring tees.

4. Hydrant Connecting Pieces. Use hydrant connecting pieces with integrally cast standard mechanical joint on one end and a split ductile iron rotating gland on the other. Use hydrant connecting pieces as manufactured by American Cast Iron Pipe Company, Birmingham, Alabama, No. A108954 or an approved equal.

O. Copper Pipe.

1. Pipe. Use Type "K" soft copper tubing complying with ASTM Specifications B 88 and AWWA Specification C800. Install service lines with a continuous run of pipe from the main to the meter.

2. Fittings. All fittings or unions for the copper service lines shall be of standard brass compression stop type for flared connections. Threads on fittings shall conform to AWWA C800, "Standard Threads for Underground Service Line Fittings."

2. Verification. Verify the size of existing service lines prior to installation of replacement or relocated service lines. Notify the Engineer prior to installation of any discrepancies between plan information and field verified information.

P. 12" Ultrasonic Transit Time Meter.

1. Supply 12" Ultrasonic Transit Time Meters complying with the requirements of AWWA C750.
2. Meters shall be cold water meters capable of measuring bi-directional flow.
3. Meters shall be battery powered with 4-20mA output(s).
4. Installation shall be as per manufacturer's requirements and plans.
5. Meters shall be Octave Ultrasonic Transit Time meters as manufactured by Master Meter, Inc. or Engineer approved other.

Q. Double Backflow Preventer.

1. Double Check Backflow Preventer shall be a Model 774 double check valve assembly as manufactured by Watts.
2. Strainer shall not be required.
3. Installation shall be as per manufacturer's requirements and plans.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 FIELD MEASUREMENT

Make necessary measurements in the field to assure precise fit of items in accordance with the approved design.

3.3 HANDLING

A. Handle pipe accessories so as to ensure delivery to the trench in sound, undamaged condition:

1. Carry pipe into position; do not drag.

2. Use pinch bars or tongs for aligning or turning the pipe only on the bare end of the pipe.

B. Thoroughly clean interior of pipe and accessories before lowering pipe into trench. Keep clean during laying operations by plugging or other method approved by the Engineer.

C. Before installation, inspect each piece of pipe and each fitting for defects: Material found to be defective before or after laying: Replace with sound material meeting the specified requirements, and without additional cost to the Owner.

D. Store rubber gaskets in a-cool dark place until just prior to time of installation.

3.04 PIPE CUTTING

A. Cut pipe neatly and without damage to the pipe.

B. Unless otherwise recommended by the pipe manufacturer, and authorized by the Engineer, cut pipe with mechanical cutter only.

1. Use wheel cutters when practicable.

2. Cut plastic pipe square, and remove all burrs.

3.05 LOCATING

A. Locate water line at least ten feet away, horizontally, and 18 inches, vertically, from sewer line.

B. Where water line must cross under or over gravity-flow sewer lines and 18” of separation is not attainable, fully encase the watermain in HDPE pipe for a distance of ten feet each side of the crossing. Payment for HDPE encasement shall be incidental to the unit price of the carrier pipe. Casing spacers and endseals will not be required for this application.

C. Do not place water lines in the same trench with sewer lines or electric wiring.

D. Whenever it is necessary to deflect pipe from a straight line, either in the vertical or horizontal plane, to avoid obstruction of plumb stems, or where long-radius curves are permitted, the amount of deflection allowed shall not exceed that required for satisfactory making of the joint and comply with the manufacturer's allowable units.

3.07 PLACING AND LAYING

A. General:

1. Lower pipe and accessories into trench by means of derrick, ropes, belt slings, or other equipment approved by the Engineer.

2. Do not dump or drop pipe work materials into the trench.

3. Lay pipe with the bells facing in the direction of laying, except where necessary in making connections to other lines.

4. Rest the full length of each section of pipe solidly on the pipe bed, with recesses excavated to accommodate bells, couplings, and joints.

5. Take up and relay pipe that has the grade or joint disturbed after laying.

6. Do not lay pipe in water, or when trench conditions are unsuitable for the work.

7. Securely close open ends of pipe, fittings, and valves when work is not in progress.

8. Where any part of coating or lining is damaged, repair to the approval of the Engineer and at no additional cost to the Owner.

9. All pipe laying shall be in strict accordance with manufacturers recommendations and installation manual unless otherwise specified.

3.08 JOINTING

A. Asbestos Cement Pipe:

1. Install couplings in accordance with AWWA C603.

2. Install heavy couplings for service line connections in accordance with the recommendations of the manufacturer.

3.09 VALVES

A. Location. Valves shall be located as shown on the Plans and approved by the Engineer.

B. Valve Boxes and Valve Pits. A valve box shall be provided for every valve. The valve box shall not transmit shock or stress to the valve and shall be centered and plumb over the wrench nut of the valve, with the valve box flush with the surface of the finished pavement or such other level as may be directed.

3.10 THRUST BLOCKS

A. General:

1. Provide thrust blocks on plugs, caps, tees, and bends deflecting either vertically or horizontally.

2. Provide KDOH Class B concrete (2500 psi) for thrust blocking.

B. Installation:

1. Prepare trench well or other supporting earth surface by exposing firm undisturbed soil just prior to concrete placement.

2. Place thrust blocks as shown in the typical details with sufficient volume of concrete.

3. Sides of thrust blocking not subject to thrust may be placed against forms.

4. Place thrust blocking so the fitting joints will be accessible for repair.

5. Place polyethylene wrap around fittings, bolts, and glands to prevent exposure to concrete.

3.11 TESTING AND INSPECTING

A. Pressure Piping:

1. Closing uninspected work: Do not allow or cause any of the work of this Section to be covered up or enclosed until after it has been completely inspected and tested, and has been approved by the Engineer.

2. Test water main at 150 psi for a period of 2 hours. The test shall conform to the standards set forth in the PW's standard specifications and procedures manual.

3. Installation of service taps prior to successful completion of the pressure test and bacteria test is prohibited.

END OF SECTION

SECTION 02810

GRAVITY SEWER SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

Furnish all materials, equipment, tools, and labor necessary to install gravity sewer systems as shown on the Drawings.

1.02 REFERENCES

Unless otherwise noted, reference is made to the latest version of the documents listed below:

A. ASTM D3034, Standard Specifications for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings

B. ASTM D1784, Standard Specifications for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds

C. ASTM F949, Standard Specification for Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings

D. ASTM D2122, Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

E. ASTM D2412, Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading

F. ASTM C478, Standard Specifications for Precast Reinforced Concrete Manhole Sections

G. Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, 2008 Edition

H. ASTM A615, Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

I. ASTM A139, Standard Specifications for Electric-Fusion (Arc) – Welded Steel Pipe (NPS 4 and Over)

J. ASTM D4479, Standard Specification for Asphalt Roof Coatings – Asbestos Free

K. ASTM D2321, Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications

L. ASTM C1244, Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (vacuum) Test Prior to Backfill

M. The Uni-Bell PVC Pipe Association Handbook of PVC Pipe, Design and Construction, Fourth Edition, August 2001

1.03 QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

1.04 SUBMITTALS

A. Submit six (6) copies of product data sheets on material to be used.

B. Product Data:

1. Materials list of items proposed to be provided under this Section;

2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;

3. Names and addresses of the nearest service and maintenance organization that readily stocks repair parts;

4. Manufacturer's recommended installation procedures which, when approved by the Engineer, will become the basis for accepting or rejecting actual installation procedures used on the Work.

PART 2 - PRODUCTS

2.01 PIPE, FITTINGS, AND ACCESSORIES

A. Plastic Pipe and Fittings:

1. Pipe – 15" & Smaller Gravity sewer pipe and fittings shall be type PSM Polyvinyl Chloride (PVC) sewer pipe conforming to the requirements of ASTM Specification D3034 for PVC pipe and fittings with a minimum standard dimension ratio (SDR) of 35 unless otherwise noted on the Drawings. The PVC compound used in the manufacture of pipe and fittings shall meet or exceed the requirements for classes 12454-B or 12454-C as defined by ASTM D1784.
2. Pipe – 18" & Larger Gravity sewer pipe shall be Polyvinyl Chloride (PVC) sewer pipe that meets or exceeds the requirements of ASTM D1784 for a minimum cell classification of 12454B or 12454C. The pipe shall be manufactured in accordance with ASTM F679 with a pipe stiffness of 46 psi as tested in accordance with ASTM D2412. Pipe dimensions shall meet the requirements of ASTM F679 when measured in accordance with ASTM D2122. All gravity PVC sewer pipe shall be as manufactured by IM Eagle (or approved equal) unless otherwise noted on the drawings.

3. Joining Systems. Use gravity sewer joints of the rubber gasket type. All joints shall provide a water tight seal. Rubber gaskets shall be marked to indicate nominal pipe sizes and proper insertion direction.

2.02 Precast Concrete Manholes. Provide precast concrete manholes and associated materials of the size indicated on the Drawings and meeting the following requirements:

A. Precast reinforced manholes and related appurtenances conforming with ASTM C 478. Seal manhole joints with "E-Z Stik" plastic gaskets or approved equal. Each gasket shall provide a watertight seal.

B. Manhole inverts shall be paved as shown on the Drawings upon delivery to the site. Provide a continuous drop in elevation from inlet to outlet unless otherwise shown on the plan/profile sheets.

C. Make pipe connections to new manholes utilizing PSX Direct-Drive gaskets as manufactured by Press Seal Gasket Corporation (or approved equal) placed into the manhole section as shown on the Drawings. Each rubber gasket connection shall provide a watertight seal.

D. Casting Replacements: The following procedure shall be carried out for each manhole noted for casting replacement on the project plans.

(a) Use Model No. R-1642 manhole covers as manufactured by the Neenah Foundry Company or an approved equal.

(b) Return the existing casting to the Owner.

(c) Remove the existing casting, grade ring(s), mastic, etc.

(d) Install concrete ring to adjust to existing grade.

(e) Install two (2) strips of bitumastic between the concrete ring and the existing manhole, and between the concrete ring and the proposed casting.

E. Use steel reinforced plastic manhole steps as manufactured by MA Industries Model PSI-PF or approved equal.

F. Manholes and lift station structures shall be precast with admixture C-1000 as manufactured by the XYPEX Chemical Corporation. The product shall be applied to the concrete mix at the time of casting and at the rates recommended by the manufacturer. Concrete mix designs incorporating this product shall be submitted to the Engineer for review and approval prior to mix production. The pre-caster shall add a coloring pigment to all manholes containing XYPEX Admixture such that it is readily apparent which structures have been treated.

2.03 Grout. Use a non-shrink, non-metallic grout such as Sonopatch Concrete Repair Compound manufactured by Sonneborn Building Products or approved equal.

2.04 Concrete. Use concrete in conjunction with construction of manholes conforming to the Kentucky Department of Highways, "Standard Specifications For Road And Bridge

Construction ", Section 601, for all concrete. Use Class A concrete, 3,500 psi at 28 days, conforming to the following:

Slump	2" to 4"
Air Content	6% ± 2%
Temperature	45º - 90º

2.05 Metal Reinforcement. Use reinforcing steel free from paint, oil, grease, loose scale, dirt, or other substances that would prevent bond between steel and concrete. Use Bars No. 4 and larger conforming in all respects to the requirements of the latest revision of ASTM Specification A 615, Grade 60.

2.06 Steel Casing Pipe:

(1) Roadways. Install ASTM A139 steel encasement pipe under all highways and where shown on the Drawings where drilling or open cut installation is required for sewer mains. Encasement pipe sized up to 16" shall have a minimum yield strength of 35,000 psi and a minimum thickness of 0.25 inches and shall be thoroughly coated with asphalt bitumen on the outside. Encasement pipe larger than 16" shall be standard strength with wall thickness of 0.375 inches and shall be thoroughly coated with asphalt bitumen on the outside.

(2) Railroads. Install ASTM A139 steel encasement under all railroad right of way where drilling or open cut is required on the drawings. Encasement pipe 36" diameter shall have a minimum yield strength of 35,000 psi and a minimum nominal wall thickness of 0.500 inches. The exterior of the encasement shall be thoroughly coated with asphalt bitumen.

2.07 Bitumastic Concrete Sealant:

(1) General. Cover the outside surface of all concrete manholes with a bitumastic sealant upon or before installation and prior to vacuum testing. The sealant shall conform in all respects to ASTM D 4479 and be Pure Asphalt Fibrated Dampproofing as manufactured by Pure Asphalt Company, Inc. or approved other.

(2) Surface Preparation. Thoroughly clean the concrete surface of all dust, grease, oil, or other foreign particles. Dry the concrete surface prior to dampproofing. If the surface cannot be satisfactorily cleaned, use Pure Asphalt Primer to ensure proper adhesion.

(3) Application. Apply bitumastic sealant with a wide fiber brush or by light airless spray at a rate of 4 to 6 gallons per 100 square feet.

2.08 XYPEX Concrete Sealant

Where noted on the drawings, the interior of existing structures shall receive two coats of XYPEX concrete sealant as manufactured by the XYPEX Chemical Corporation.

(1) Coat #1. The first coat shall be XYPEX CONCENTRATE applied by brush in accordance with all manufacturer's recommended application rates and procedures.

(2) Coat #2. Apply XYPEX MODIFIED following application and curing of Coat #1. Application shall be by brush or spray in accordance with all manufacturer's recommended application rates and procedures.

PART 3 - EXECUTION

3.01 Surface Conditions. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 Handling. Handle pipe without dropping or bumping in a manner to ensure installation in a sound, undamaged condition. Lift pipe with slings or as recommended by the manufacturer. Do not use hooks in contact with joint surfaces. Use equipment for handling that is capable of the required work with an adequate safety factor against overturning or overloading.

3.03 Grade and Alignment:

A. Locate the line as shown on the Drawings to "center" on manholes.

B. Use laser equipment for gravity sewer installation to maintain the line and grade of the sewer line. Use targets designed for the size pipe to be installed. Verify the grade of the sewer every 100 feet using conventional leveling techniques.

C. Use offset stakes as necessary for the proper installation of manholes.

3.04 General:

A. Conform with the requirements of ASTM D2321 latest revision unless otherwise noted on the drawings or shown herein.

B. After the trench is excavated to subgrade as specified, fill the trench to grade with crushed stone as specified to provide a firm and satisfactory bed. Lay pipe of the designated class and required size to form closed joint with the next adjoining pipe, bringing the inverts continuously to the required line and grade shown on the Drawings.

C. Commence pipe laying at the lowest point on the line with the spigot or tongue ends placed in the direction of flow.

D. Limit joint openings to one-half inch (1/2") for rubber gasket joint and one-fourth inch (1/4") for plastic gasket joints.

E. Close all open ends at suspension of day's work with snug fitting closures, and any water accumulated in trench shall be removed prior to removing closure upon resumption of work.

F. Use care to prevent lateral displacement during bedding and backfilling.

G. Keep all line interiors clear of dirt or other foreign matter as work progresses and after installation.

3.05 Pipe Embedment Zone:

A. Unless otherwise directed by the Engineer, use #9m crushed limestone in compliance with the Kentucky Department of Highways "Standard Specifications for Road and Bridge Construction" and as certified/approved by the Kentucky Transportation Cabinet. Cost for bedding material is considered incidental to the cost of pipe installation.

B. Consult with the Engineer regarding bedding and embedment materials when ground water is encountered in the trench.

C. Place bedding and embedment materials in accordance with procedures outlined in ASTM D2321.

3.06 Joint Locations at Structures. Provide for differential movement between pipe the structure by locating the first joint not more than four (4) inches from structure wall. Embed pipe in concrete from structure wall to first joint.

3.07 Road and Drive Crossing. Bore all state highway crossings with steel encasement jacked into place as shown on the Drawings. Where noted on the plans, selected roadways and drives with county or city right of way may be open cut and backfilled with select backfill. Such crossing shall be sequenced to minimize traffic and access impact. Provide the engineers with a traffic control plan for approval to be used with open cut crossings prior to initiating construction.

3.08 Manholes. Construct manholes at the proper elevations where shown on the Drawings and conforming with the details shown on the Drawings.

3.09 Tie to Existing Manholes. All pipe penetration into existing manholes shall be core drilled and sealed with an appropriately sized PSX direct-drive gasket. All penetrations shall be water tight.

PART 4 - TESTING

4.01 Low Pressure Air Test:

A. General. Conduct a low pressure air test after the trench has been backfilled. Test each section of line between manholes. Furnish the compressor, hose, pipe, connections, gauges, and measuring devices and all other necessary apparatus, and furnish all necessary assistance to conduct the test.

B. Procedure. Plug all pipe openings with pipe plugs after the test section has been cleaned. The air temperature in the test section should be between 45 degrees and 95 degrees Fahrenheit and the interior of the pipe surface should be wet immediately prior to installation of plugs. Pressurize the pipe section to a pressure between 4 psig and 3.5 psig and allow time for the pressure to stabilize. When the pressure has stabilized and is at least 3.5 psig, record the time required for the pressure to drop 0.5 psi. The minimum allowable time intervals for this 0.5 psi drop for plastic pipe at standard length of 400’ between manholes are as follows:

PVC PIPE SIZE (INCHES)	TIME	TIME FOR LONGER LENGTH, SECONDS
4	1 minute 53 seconds	0.190*L
6	2 minutes 50 seconds	0.427*L
8	5 minutes 04 seconds	0.760*L
10	7 minutes 54 seconds	1.187*L
12	11 minutes 24 seconds	1.706*L
15	17 minutes 48 seconds	2.671*L
18	25 minutes 38 seconds	3.846*L
24	45 minutes 35 seconds	6.837*L
30	71 minutes 13 seconds	10.683*L

*Note - If distances between manholes exceeds 400', use the table noted as "Time for Longer Lengths" to calculate the allowable time associated with a pressure drop of 0.5 psi. As a function of length, (L) between manhole, L - in feet.

Should any test of the pipe disclose a pressure drop greater than that specified in the referenced time frame, the Contractor shall, at his own expense, repair the defective joints or sections until the pressure drop is within the specified allowance.

C. Final Acceptance. No pipe installation will be accepted until the pressure drop is less than the pressure drop in the above table for the size pipe being tested.

4.02 Lamp Test. Perform the lamp test as directed by the Engineer to verify the accuracy of alignment of the installed sewer and that the sewer is free of debris and obstructions. The lamp test shall be performed following the placement of at least one (1) foot of backfill over the section of sewer to be tested. The segment of sewer shall be visually lamped with lights or mirrors. Visually inspected the line at the manhole opposite of the manhole which is being illuminated. The full diameter of the pipe in respect to the vertical axis should be visible and a minimum 7/8 of the diameter of the pipe in respect to the horizontal axis should be visible when viewed. Remove and relay segments of sewer not meeting the requirements mentioned above.

4.03 Deflection Test. Perform the deflection test along the installed sewer alignment no less than 30 days following complete trench backfill. The test shall be per-formed by pulling an Engineer approved deflection gauge or mandrel through the segment of sewer being tested. The dimensions of the mandrel shall be in accordance with Table 10.14 or Table 10.15 as presented in the Uni-Bell Handbook of PVC pipe, 4th Ed. This test shall be considered a "go-no go" test in which segments that do not allow passage of the mandrel shall be removed and reconstructed. Following reconstruction, retest the segment for deflection.

4.04 Manhole Vacuum Test. Perform the vacuum test conforming to the preparation and procedure as outlined in the most recent edition of the ASTM designation C 1244 (Standard Test Method For Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test) and more generally described as follows:

A. Properly brace and plug all lift holes and pipes leading into and out of the manhole.

B. Drain a vacuum of ten (10) inches of Mercury (4.9 psi) on the manhole. Close the valve on the vacuum line of the test head and shut off the vacuum pump.

C. Measure the time for the vacuum pressure to drop to nine (9) inches of Mercury.

D. The manhole vacuum test shall be considered passed if the time required for the pressure to drop from ten (10) inches of Mercury (4.9 psi) to nine (9 inches Mercury (4.4 psi) exceeds the time specified in Table 1 of ASTM C 1244 and the table listed below:

MINIMUM TEST TIMES FOR VARIOUS MANHOLE DIAMETERS Diameter, Inches									
	30	33	36	42	48	54	60	66	72
Depth	Time (seconds)								
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	29	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	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

E. If the manhole fails the initial test, make necessary repairs by a method approved by the Engineer. Retest the manhole until a satisfactory test result is obtained.

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LAMP TEST DATA SHEET

Test No. _____

Identification of Pipe Installation (Job name, location, contract number, etc.)_____
_____

Field Test Data: (To be filled in by the Inspector).

Date: _____

Identification of Pipe Material Installed
_____

Pipe Under Test

Upstream MH sta #	Downstream MH sta #	Dia. D (in.)	Length L (ft.)	Pass or Fail (P or F)

Inspector's Name and Title: _____

Signature of Inspector: _____

If a section fails, the following items should be completed:

Identify section(s) that failed: _____

Description of corrective action taken: _____

_____

For test results after repair refer to Test No. _____ Inspector _____

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AIR TEST DATA SHEET

Test No. _____

Identification of Pipe Installation (Job name, location, contract number, etc.) _____

_____

Field Test Data: (To be filled in by the Inspector).
Date: _____ Specified Maximum Pressure Drop: _____psig
Identification of Pipe Material Installed
_____

Pipe Under Test				Specification Time	Field Test Operations Data					
Upstream MH sta #	Downstream MH sta #	Dia. D (in.)	Length L (ft.)	Refer to Table 1 (min:sec)	Pressure Initially Raised to (psig)	Time Allowed for Pressure to Stabilize (min)	Start Test Pressure (psig)	Stop Test Pressure (psig)	Elapsed Time (min:sec)	Pass or Fail (P or F)

Inspector's Name and Title: _____Signature of Inspector: _____

If a section fails, the following items should be completed:
Identify section(s) that failed:
_____

Leak (was) (was not) located. Method used:
_____

Description of leakage found:
_____

Description of corrective action taken:
_____

For test results after repair refer to Test No. _____Inspector_____

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MANHOLE VACUUM TEST

ASTM DESIGNATION C1244 DATA SHEET
Test No. _____

Identification of Manhole (Job name, location, contract number, etc.)
_____
_____

Field Test Data: (To be filled in by the Inspector).
Date: _____ Specified Maximum Pressure Drop: _____psig
Identification of Manhole Installed

Pipe Under Test				Specification Time	Field Test Operations Data					
	Manhole MH sta #	Dia. D (in.)	Length H (ft.)	Refer to Table 1 (sec)	Vacuum Initially Raised To (mercury)	Time Allowed for Vacuum to Stabilize (sec)	Start Test Vacuum (mercury)	Stop Test Vacuum (mercury)	Elapsed Time (sec)	Pass or Fail (P or F)

Inspector's Name and Title: _____
Signature of Inspector: _____

If a manhole fails, the following items should be completed:
Identify manhole(s) that failed:
_____
Leak (was) (was not) located. Method used:
_____
Description of leakage found:
_____
Description of corrective action taken:
_____
For test results after repair refer to Test No. _____ Inspector _____

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DEFLECTION TEST DATA SHEET

Test No. _____

Identification of Pipe Installation (Job name, location, contract number, etc.)

_____

_____

Field Test Data: (To be filled in by the Inspector).

Date: _____

Identification of Pipe Material Installed

_____

Pipe Under Test

Upstream MH sta #	Downstream MH sta #	Dia. D (in.)	Length L (ft.)	Pass or Fail (P or F)

Inspector's Name and Title: _____

Signature of Inspector: _____

If a section fails, the following items should be completed:

Identify section(s) that failed: _____

Description of corrective action taken: _____

_____

For test results after repair refer to Test No. _____ Inspector _____

SECTION 02825

SEWER LINE CLEANING

PART 1 - GENERAL

1.01 INTENT

The intent of sewer line cleaning is to remove foreign materials from the lines as required for television inspection. Proper cleaning should restore the sewer to a minimum of 95% of its original cross-sectional area. It is recognized that there are some conditions such as collapsed pipe that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued.

PART 2 - CLEANING EQUIPMENT

2.01 HYDRAULICALLY PROPELLED EQUIPMENT

The equipment used shall be of a movable dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The movable dam shall be equal in diameter to the pipe being cleaned and shall provide a flexible scraper around the outer periphery to ensure removal of grease. If sewer cleaning balls or other equipment that cannot be collapsed are used, special precautions to prevent flooding of the sewers and public or private property shall be taken.

2.02 HIGH-VELOCITY JET (HYDROCLEANING) EQUIPMENT

All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floor. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.

2.03 MECHANICALLY POWERED EQUIPMENT

Bucket machines shall be in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt operated or have an overload device. Machines with direct drive that could cause damage to the pipe will not be allowed. A power rodding machine shall be either a sectional or continuous rod type capable of holding a minimum of 750 feet of rod. The rod shall be specifically heat-treated steel. To ensure safe operation, the machine shall be fully enclosed and have an automatic safety clutch or relief valve.

PART 3 - EXECUTION

3.01 SEWER CLEANING

The designated sewer manhole sections shall be cleaned using hydraulically propelled, high-velocity jet, or mechanically powered equipment. The Owner shall provide the Contractor with access to hydrants for the necessary filling of tanks for sewer cleaning operations. Selection of the equipment used shall be based on the conditions of lines at the time the work commences. The equipment and methods selected shall be satisfactory to the Engineer. The equipment shall be capable of removing dirt, grease, rocks, sand, roots, protruded laterals, and other material and obstructions from the sewer lines and manholes. If cleaning of an entire section cannot be successfully performed from one manhole due to collapsed pipe, the equipment shall be set up on the other manhole and cleaning shall be attempted again. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, the Contractor will notify the Engineer for further direction.

A. Light Cleaning

"Light Cleaning" shall include the cleaning of a section of sewer using high-velocity water jetting equipment. The scope of work incidental to "Light cleaning" shall include to three (3) passes using the above mentioned equipment to remove sludge, dirt, grease, rocks, sand, gravel and similar debris from the designated sewer section.

B. Heavy Cleaning

"Heavy Cleaning" shall include that cleaning necessary to remove medium to large roots, root balls, protruding laterals and other material and obstructions from the sewer lines and manholes which cannot be removed through "Light Cleaning" alone, as described in "A" of this section. Light cleaning of each sewer section shall be incidental to the unit price bid for "Heavy Cleaning & T.V. Inspection".

C. Sewer Cleaning Precautions

During sewer cleaning operations, satisfactory precautions shall be taken in the use of the cleaning equipment. When hydraulically propelled cleaning tools, or tools which retard the flow in the sewer line are used, precautions shall be taken to ensure that the water pressure created does not damage or cause flooding of public or private property being served by the sewer. When possible, the flow of sewage in the sewer shall be utilized to provide the necessary pressure for hydraulic cleaning devices. When additional water from fire hydrants is necessary to avoid delay in normal work procedures, the water shall be obstructed in case of a fire in the area served by the hydrant.

3.02 PROTRUDING LATERAL REMOVAL

Protruding laterals shall be removed in all mainline sections where a protrusion of greater than ¾" extends into the mainline. All protruding laterals shall be removed to a tolerance of ¾" from the inside wall of the mainline using engineer-approved methods.

3.03 ROOT REMOVAL

Roots shall be removed in the sections where root intrusion is a present. Special attention should be used during the cleaning operation to assure almost complete removal of roots from the joints. Any roots that could prevent the proper application of chemical sealants or cured in place pipe liner systems shall be removed. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines, and winches using root cutters and porcupines, and equipment such as high-velocity jet cleaners. Chain beaters shall be used at the Contractor's risk. Any sewer failures resulting from use of chain beaters, which will require a sewer point repair, shall be paid at the Contractor's expense.

3.04 MATERIAL REMOVAL

Sludge, dirt, sand, rocks, grease, and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section, which could cause line stoppages, accumulations of sand in wet wells, or damage pumping equipment, shall not be permitted.

3.05 DISPOSAL OF MATERIALS

The Owner shall provide a dumpsite for all debris removed from the sewers during the cleaning operation. Unless stated otherwise, it is assumed this site will be in the immediate area. Any hazardous waste material encountered during this project will be considered as a changed condition.

3.06 FINAL ACCEPTANCE

Final acceptance of sewer line cleaning shall be made upon the successful completion of the television inspection and shall be to the satisfaction of the Engineer. If TV inspection shows the cleaning to be unsatisfactory, then the Contractor will reclean and reinspect the sewer line until the cleaning is shown to be satisfactory.

END OF SECTION

SECTION 02826

TELEVISION INSPECTION

PART 1 - GENERAL

1.01 SCOPE

The work to be performed under this section of the Specifications consists of completing television inspection of all main sewers requiring rehabilitation as shown on the drawings and specified herein. Any television inspection work performed in addition to that shown on the drawings, shall require written approval from the Owner or Engineer, for this work to be considered for payment. The work includes, but is not limited to, the following:

1.02 INSPECTION

A. Inspect sewers using an integrated CCTV sewer inspection system consisting of cameras, lighting, transport cables, power source, monitor, digital video recorder and other equipment as necessary to properly perform the work.

B. The television camera used for the inspection shall be one specifically designed and constructed for such inspection and shall be capable of panning 360° and tilting 270°. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera should be capable of generating a minimum of 500 lines of resolution. In general the camera, television monitor, and other components of the video system shall be capable of producing a color picture/video quality to the Owner's satisfaction.

C. All CCTV coding shall be done in accordance with NASSCO's Pipeline Assessment Certification Program (PACP). The information called out should include, but is not limited to the following:

1. Structural condition and deformation of the pipe walls
2. Segment length (from inside walls of adjacent manholes)
3. Manhole depth (invert to top of casting to nearest 0.1')
4. Blockages or obstructions
5. Condition of joints and pipe walls
6. Standing water/sag conditions
7. Infiltration/exfiltration
8. Fluctuations in water level
9. Size, location and condition of sewer laterals w/clock position

D. The camera shall move through the sewer at a constant rate, stopping

when necessary to permit proper documentation of the sewer's condition for coding. In no case shall the television camera be pulled at a speed greater than 30 feet per minute. In addition, capture a still picture (color jpeg format) of all significant defects observed during an inspection and record segment, location along sewer, clock position, time and defect code for each picture. The operator shall also capture a still photograph looking up each lateral, noting location along sewer, clock position and defects as necessary.

E. During the inspection, clearly and continuously display the following information on the periphery of the screen, monitor and video recording:

1. Starting Location ID
2. Ending Location ID
3. Distance from Starting Manhole Location

F. If inspection of an entire sewer segment cannot be completed due to a collapse, excessive deformation, debris, intruding connections, obstructions or large displaced joints, move equipment to the downstream manhole and attempt inspection in the upstream direction. Advise the Owner's Representative if any complete sewer segment cannot be inspected on a daily basis. Track all locations where a complete inspection could not be obtained and clearly document the length of sewer not inspected, location, segment, distance from adjacent manholes, etc.

G. Removal of roots, debris and flow control required to obtain a suitable video record of the subject sewer mains shall be incidental to the contract.

H. Provide flow control and/or by-pass pumping for all sewers where the depth of flow is 25% of the pipe diameter or greater. See Specification 02827.

I. Light cleaning consisting of up to 3 passes with a jet truck for removal of small roots and debris shall be incidental to the contract. All debris shall be removed from the sewer system and not passed downstream.

1.03 CERTIFICATIONS

All CCTV operators shall maintain current NASSCO's PACP's certification and shall provide suitable document of such upon request by the Owner.

1.04 MEASUREMENT

A. Measure and record the depth of all manholes adjacent to the subject sewer segment from the manhole invert to the top of casting to the nearest 0.1 foot using a roll tape. Marked camera cable will not be allowed.

B. Reference all distance measurements along the sewer to the inside walls of adjacent manholes to the nearest 0.1 foot. All references to defects and/or lateral locations along the sewer main shall be within ± 2 feet.

C. Payment for video inspection as provided for in these specifications shall be made based on the horizontal distance between the center of manholes at ground level as measured by a roll-tape or other suitable means to the nearest foot.

1.05 REPORTS AND SUBMITTALS

A. Submit two copies of the following items within two weeks, following completion of all required video inspection activities:

1. Electronic inspection videos recorded and organized on CD/DVD.
2. Electronic still-capture pictures of significant defects on CD/DVD
3. Printed inspection logs w/location and defect codes
4. Printed list of standard PACP defect codes

B. All inspection videos shall be configured for viewing using Windows Media Player Version 10 (or a more recent version) and have the ability to use all features of the video player including fast forward capability.

C. Clearly label each CD/DVD with the following information in an organized format:

1. Name of Inspection Contractor w/address
2. Project Name
3. Disc ___ of ____
4. Section _____ to Section ____
5. Date of Inspection

D. No payment will be made for poor or unacceptable quality videos or for portions of sewer mains not televised, for any reason. If, in the opinion of the Owner, the video is of such poor quality that the condition of the sewer cannot be adequately assessed, the Contractor shall re-inspect the unacceptable segments and resubmit all deliverables for that segment at no additional cost to the Owner.

END OF SECTION

SECTION 02827

SEWER FLOW CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

A. When sewer depth of flow at the upstream manhole of the subject sewer main is above the maximum allowable for television inspection or sewer rehabilitation work, the flow shall be reduced to zero, or to the level shown below by operation of pump stations, plugging or blocking of the flow, or by pumping and bypassing of the flow as specified.

B. Depth of flow shall not exceed that shown below for the respective pipe sizes as measured in the manhole when performing television inspection.

1. Maximum depth of flow for television inspection.
   a. 6 inch to 10 inch pipe - 20% of pipe diameter.
   b. 12 inch to 24 inch pipe - 25% of pipe diameter.
   c. 27 inch and up pipe - 30% of pipe diameter.

PART 2 - EXECUTION

2.01 PLUGGING OR BLOCKING

A sewer line plug shall be inserted into the line upstream of the section being worked. The plug shall be so designed that all or any portion of the sewage can be released. During TV inspection, flow shall be reduced to within the limits specified above. After the work has been completed, flow shall be restored to normal.

2.02 PUMPING AND BYPASSING

When pumping and bypassing is required, the Contractor shall supply the pumps, conduits, and other equipment to divert the flow of sewage around the manhole section in which work is to be performed. The bypass system shall be of sufficient capacity to handle existing flow plus additional flow that may occur during a rainstorm. The Contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum.

2.03 FLOW CONTROL PRECAUTIONS

When flow in a sewer line is plugged, blocked, or bypassed; sufficient precautions must be taken to protect the sewer lines from damage that might result from sewer surcharging. Further, precautions must be taken to ensure that the sewer flow control operations do not cause flooding or damage to public or private property being served by the sewers involved.

END OF SECTION

SECTION 02828

CURED-IN-PLACE LATERAL RECONSTRUCTION FROM MAINLINE

PART 1 - INTENT

1.1 It is the intent of this portion of this specification to provide for the reconstruction of service lateral sanitary sewer lines without excavation by the installation of a resin impregnated flexible felt tube inverted into the existing service lateral utilizing a pressure apparatus positioned in the mainline pipe, or by accessing the lateral via cleanout with main/lateral interface seal. Curing shall be accomplished by circulating hot water or other approved method to cure the resin into a hard impermeable pipe. When cured, the tubing should extend over the length of the inversion in a continuous tight-fitting pipe-within-a-pipe to form a watertight, airtight interface with the mainline reconstructed pipe.

PART 2 - REFERENCE SPECIFICATIONS

2.1 Unless otherwise noted, reference is made to the latest version of the documents listed below:

A. ASTM F1216, Rehabilitation of Pipelines by the Inversion and Curing of a Resin-Impregnated Tube

B. ASTM F1743, Rehabilitation of Pipelines by Pulled-In-Place Installation of a Cured-In-Place Thermosetting Resin Pipe

C. ASTM D790, Test Methods for Flexural Properties of Non-Reinforced Plastics

D. ASTM D5813, Standard Specification for Cured-In-Place Thermosetting Resin Sewer Piping Systems

E. ASTM D638, Standard Test Method for Tensile Properties of Plastics

In case of conflicting requirements between this Specification and these referenced documents, this Specification will govern.

PART 3 - GENERAL CORROSION REQUIREMENTS

3.1 The finished cured-in-place pipe (CIPP) shall be fabricated from materials which when cured will be chemically resistant to withstand internal exposure to domestic sewage and meet the chemical corrosion resistance requirements of ASTM F1216 and D5813.

3.2 All constituent materials will be suitable for service in the environment intended. The final product will not deteriorate, corrode or lose structural strength that will reduce the projected product life.

3.3 In industrial areas subject to possible flows other than domestic sewage, the Owner shall obtain samples of the dry weather sewage flow to be analyzed for chemical content. This analysis shall be supplied to the Installer for his information.

PART 4 - MATERIALS

4.1 The tube shall be fabricated to a size that when installed will neatly fit the internal circumference of the conduit. Allowance shall be made for circumferential stretching during insertion.

4.2 The minimum length shall be that deemed necessary by the Engineer to effectively span the distance from the lateral connection at the main to the desired termination location in the service lateral pipe. The Installer shall verify the lengths in the field before impregnation.

4.3 Unless otherwise specified, the Installer shall furnish a specially designed resin system compatible with the cured-in-place process that provides cured physical strengths and corrosion resistance specified herein.

PART 5 - PHYSICAL STRENGTH

5.1 The structural performance of the finished pipe must be adequate to accommodate all anticipated loads throughout its design life. No cured-in-place pipe reconstruction technology will be allowed that requires bonding to the existing pipe for any part of its structural strength. Only resin vacuum impregnation will be allowed. If reinforcing materials (fiberglass, etc.) are used, the reinforcing material must be fully encapsulated within the resin to assure that the reinforcement is not exposed, either to the inside of the pipe or at the interface of the CIPP and the existing pipe.

5.2 Design methods are to be derived from traditionally accepted pipe formulae for various loading parameters and modes of failure. All equations will be modified to include ovality as a design parameter. The design method shall be submitted to the Engineer for approval prior to the pre-bid conference.

5.3 The cured tubing shall conform to the minimum structural standards as listed below:

Property	ASTM Standard	Results
Flexural Stress	ASTM D790	4,500 psi
Flexural Modulus or Elasticity	ASTM D790	250,000 psi
Tensile Strength	ASTM	3,000 psi

PART 6 - DEVATIONS

6.1 The Installer shall submit his price proposal for the appropriate length, size and thickness designated in the proposal section. Should pre-installation inspections reveal the service laterals to be in substantially different conditions than those in the design considerations, the Installer shall request such changes in thickness, supporting such request with design data. The deviation, if approved, shall be reflected by the appropriate addition or reduction in the unit cost for that size as shown in the optional portion of the proposal section.

PART 7 - INSTALLATION PREPARATIONS

7.1 The following installation procedures shall be adhered to unless otherwise approved by the Owner's representative.

7.2 Safety – The installer shall carry out his operations in strict accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements involving entering confined spaces.

7.3 Cleaning of Sewer Line – It shall be the responsibility of the Installer to remove all internal debris out of the sewer line. See Section 02825 of these Specifications.

7.4 Inspection of Pipelines – Inspection of pipelines shall be performed by experienced personnel trained in locating breaks and obstacles by closed circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of CIPP into the pipelines, and it shall be noted so that these conditions can be corrected. A videotape and suitable log shall be kept for later reference by the Owner.

7.5 See Section 02827 – Sewer Flow Control of these Specifications.

7.6 Line Obstructions – It shall be the responsibility of the Installer to clear the line of obstructions such as solids, dropped joints, roots or collapsed pipe that will prevent the insertion of CIPP. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, the Installer shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the Owner's representative prior to the commencement of the work and shall be considered as a separate pay item. Upon completion of a prior approved point repair, the repaired line shall be inspected, as outlined in Section 02826, prior to lining the sewer. This inspection work shall be considered as incidental to the unit price bid for point repair work.

7.7 The service lateral pipe opening at the confluence with the mainline sewer should be prepared in a manner that is consistent with ASTM F1743.

PART 8 - INSTALLATION

8.1 The Installer shall designate a location where the tube will be vacuum impregnated prior to installation. The Installer shall allow the Owner to inspect the materials and "wet-out" procedure. A catalyst system compatible with the resin and tubing shall be used.

8.2 The wet-out tube shall be loaded inside a pressure apparatus above ground. The pressure apparatus, with an end attached to a robotic device, shall be winched through the mainline pipe to the service connection. The robotic device, together with a television camera, will be used to position the pressure apparatus' inversion elbow at the service connection opening. Air pressure, supplied to the pressure apparatus through an inversion hose, shall be used to invert the wet-out tubing through the lateral pipe. The inversion head will be adjusted to be of sufficient pressure to cause the impregnated tubing to invert completely in the lateral pipe and hold the tube tight to the pipe wall. Care shall be taken during the curing process so as not to overstress the tube.

8.3 Curing – Curing shall be performed as per the manufacturer's recommendations.

8.4 Finish – The finished CIPP shall be continuous over the entire length of an inversion run and be free of dry spots, lifts, and delamination. The lateral CIPP shall not inhibit the closed circuit television post video inspection of the mainline or service lateral pipes.

8.5 During the one-year warranty period, any defects which will affect the integrity or strength of the CIPP shall be repaired at the Installer's expense in a manner mutually agreed upon by the Engineer and the Installer.

8.6 After the work is completed, the Installer will provide the Owner and Engineer with a videotape showing the completed work including the restored site.

PART 9 - CLEAN-UP

9.1 Upon acceptance of the installation work, the Installer shall reinstate the project area affected by his operations to its original condition.

PART 10 - PAYMENT

10.1 Payment for the work included in this section will be in accordance with the prices set forth in the proposal for the quantity of work performed. Progress payments will be made monthly based on the work performed during that period.

END OF SECTION

SECTION 15110

VALVES & VALVE ACTUATORS

PART 1 – GENERAL

1.01 GENERAL – This section of the Specifications covers all valves and valve actuators shown on the Project Drawings.

1.02 SUBMITTALS

A. General – Submit six (6) copies each of the manufacturer's data sheets and operation and maintenance information as described herein to the Engineer.

B. Manufacturer's Data Sheets – Submit manufacturer's data sheets for each of the products specified herein to the Engineer for approval. Highlight or otherwise distinguish that data that applies specifically to the products subject to approval. Provide certification on each submittal stating that the product information has been reviewed and that the product that will be used in the Work will comply with the requirements of the specifications. Provide date and signature with each certification statement.

1.03 PRODUCT HANDLING

A. Delivery and Storage – Materials shall be handled in a manner complying with the recommendations of the manufacturer. Materials shall be stored in an organized manner at a location that will not interfere with the Work. Mechanical and Electrical equipment shall be stored in an area protected from the elements in order to exclude moisture.

B. Protection – Take appropriate measures to protect stored materials from the potential of damage from ongoing activities adjacent to the storage area.

C. Replacement – Replace materials damaged during shipment, handling, or storage prior to installation. Such replacements shall be made at no additional cost to the Owner.

1.04 WARRANTY

A. General – All Work associated with this section shall be covered by the standard one year contract warranty in accordance with requirements of the General Conditions.

B. Equipment – All mechanical and electrical equipment installed as part of the Work shall be covered by a full manufacturer's warranty for a minimum period of one (1) year after the acceptance of the installation by the Engineer.

PART 2 – MATERIALS AND EQUIPMENT

2.01 GATE VALVES

A. Use resilient seated gate valves complying with AWWA C509 with a non-rising stem, double O-ring seal stuffing box and iron body with epoxy coated interior surfaces complying with AWWA C550. Working pressure of 250 psi designed to

work equally well with pressure on either side of the gate. Use American Darling Series 2500 or approved other.

B. Oversized Gate Valves: For installations on existing, oversized cast/ductile iron piping, use Mueller Aqua-Grip Valves, or engineer approved other.

C. Provide connections as required for the piping in which they are installed.

2.02 PLUG VALVES

A. Provide eccentric plug valves (16" minimum size) of the non-lubricated eccentric type with resilient faced plugs furnished with flanged (above grade) and mechanical joint (below grade) end connections. Flanged valves shall be faced and drilled to the ANSI 125 lb. Standard.

B. The valve body shall be of ASTM A126 Class B cast iron and shall be furnished with a 1/8" welded overlay seat of not less than 90% pure nickel. Seat area shall be raised with raised surface completely covered with weld to insure that the plug face contacts only nickel. Screwed-in seats shall not be acceptable.

C. The plug shall be of ASTM A126 Class B cast iron and shall have a cylindrical seating surface eccentrically offset from the center of the plug shaft. The interference between the plug face and body seat, with the plug in the closed position, shall be eternally adjustable in the field with the valve in the line under pressure. Plug shall be Chloroprene (CR) or resilient facing suitable for the application.

D. The bearings shall have sleeve type metal bearings and shall be of sintered, oil impregnated permanently lubricated type 316 ASTM A743 Grade CF8M. Non-metallic bearings shall not be acceptable.

E. The shaft seals shall be of the multiple V-ring type and shall be externally adjustable and repackable without removing the actuator or bonnet from the valve under pressure. Valves utilizing O-ring seals or non-adjustable packing shall not be acceptable.

F. Pressure ratings shall be 175 psi and valve shall be given a hydrostatic and seat test with results being certified.

G. All valve components shall conform to Underwriters Laboratories classification in accordance with ANSI / NSF Standard 61.

H. Plug valve shall be PEC Eccentric Plug Valve as manufactured by DeZurik or Engineer approved equal.

2.03 BUTTERFLY VALVES

A. Provide butterfly valves that meet or exceed the latest revision of AWWA Standard C504 for Class 150B butterfly valves and that meet or exceed the requirements of this specification.

B. Butterfly valves shall have a working pressure of 200-psi and shall be tested at and shall be capable of withstanding bi-directional line hydrostatic test pressures up to 225-psi without leaking.

C. All valve components shall conform to Underwriters Laboratories classification in accordance with ANSI/NSF Standard 61.

D. Valve bodies shall be of cast iron per ASTM A126 Class B. Flange end valves shall be of the short body design with 125 lb. flanged ends faced and drilled per ANSI B16.1 standard for cast iron flanges. Mechanical Joint end valves shall meet the requirements of AWWA C111/ANSI 21.11.

E. Discs shall be offset to provide an uninterrupted 360 degree seating edge and shall be cast iron per ASTM A48, Class 40C. The disc seating edge shall be solid 316 stainless steel. Sprayed mating seating surfaces are not acceptable. The disc shall be securely attached to the valve shaft utilizing a field removable/replaceable 316 stainless steel torque screw on sizes 3 - 12" (80 - 300mm) or a tangential pin locked in place with a set screw on sizes 14 - 20" (350 - 500mm).

F. Valve shaft shall be type 304 stainless steel. Valve shaft seals shall be self-compensating V-type packing with a minimum of four sealing rings. One-piece molded shaft seals and o-ring shaft seals are not acceptable.

G. The seat shall be of Buna-N for water, or as required for other services, and shall be molded in and vulcanized to the valve body. The seat shall contain an integral shaft seal protecting the valve bearings and packing from any line debris. Seats vulcanized to cartridge inserts in the valve body and seats on the disc are not acceptable.

H. Valve shaft bearings shall be non-metallic and permanently lubricated.

I. Unless otherwise specified, exterior and interior metallic surfaces of each valve shall be shop painted per the latest revision of AWWA C504. The interior of the body shall have a full rubber lining vulcanized to the valve body. Mechanical Joint valves shall be fully rubber lined to point of pipe insertion. Rubber lining on the flange face and boot style seats are not acceptable.

J. If the actual valve operating conditions are provided within this specification, the valve actuator shall be sized to the specified conditions. If actual operating conditions are not provided within this specification, per AWWA C504, the valve actuator shall be sized to operate the valve at the rated working conditions of the valve. Each valve and valve actuator shall be assembled, adjusted, and tested as a unit per the latest revision of AWWA C504, by the valve manufacturer. Shop leakage tests shall follow the requirements of AWWA C504 except that the test pressure shall be 225 psi (1550 kPa).

K. AWWA C504 Butterfly valves shall be DeZURIK BAW or approved equal.

L. Butterfly valves shall be AWWA Butterfly Valves (BAW) as manufactured by DeZurik or Engineer approved equal

2.04 CHECK VALVES

A. Provide wafer swing check valves with a spring-assisted closure that minimizes the possibility of water hammer.

B. The valve body shall be of cast iron complying with ASTM A48

C. Valve trim shall be 316 stainless steel complying with ASTM A23.

D. For corrosion resistance the valve shall be Electroless-Nickel Plated.

E. Wafer swing check valves shall be Series 501A as manufactured by Cla-Val or Engineer approved equal

2.05 ELECTRIC MOTOR ACTUATORS

A. Basic Actuator – The electric valve actuator shall include the motor, actuator unit gearing, limit switch gearing, limit switches, torque switches, declutch lever, and manual handwheel as a complete self-contained unit. All actuators shall meet the latest revisions of AWWA specifications C504 and C540.

B. Enclosures – The valve actuator motor and all electrical enclosures shall be NEMA 4 (weatherproof/ watertight) and NEMA 6 temporary submersion (minimum of 3 meters for 48 hours.

C. Motor – The motor shall be specifically designed for valve actuator service and shall be of high starting torque, totally enclosed, non-ventilated construction. Motor insulation shall be a minimum of NEMA Class F, with a maximum continuous temperature rating of 155 degrees C (rise plus ambient) for the duty cycle specified. Optional insulation classes are available if service conditions warrant.

The motor shall be of sufficient size to open or close the valve at the maximum stated torque. The motor shall be capable of operating at plus or minus 10% of the specified voltage. The motor duty rating shall be sufficient for three complete cycles (open-close-open 3 times) without exceeding its temperature rating. Motor bearings shall be of the anti-friction type, and permanently lubricated.

The motor shall be an independent sub-assembly such that the power gearing shall not be an integral part of the motor assembly, to allow for motor or gear changes dictated by system operation requirements. The motor must be capable of being removed in its entirety for repair and testing. The use of a motor cast integral to the actuator body is not permitted.

The motor shall be equipped with internal thermal contacts to protect against motor overload and the motor shall be equipped with 120-volt AC/DC heaters of 10 watt minimum size.

AC motors shall be rated as a minimum for a 15 minute duty cycle

D. Power Gearing – The actuator shall be a multiple reduction unit with power gearing consisting of spur, helical, or bevel gears, and worm gearing. The spur, helical, or bevel gearing and worm shall be of hardened alloy steel, and the worm gear shall be alloy bronze. All gearing shall be accurately cut. Non-metallic, aluminum, compressed powdered metal, and cast gearing shall not be allowed. Anti-friction rolling element bearings shall be used throughout and shall support both ends of all rotating parts.

E. Lubrication – All rotating power train components shall be immersed in grease with provisions for inspection and re-lubrication without disassembly. Lubricants shall be suitable for ambient conditions of minus 20°F to 150°F. Adequate seals shall be provided on all shafting. The use of oil as a lubricant is not permitted.

F. Self-Locking Feature – Actuator gearing must be self-locking. The use of non-locking gearing and motor brakes is not permitted. The actuator must keep the

valve in position with the motor removed without the need for special considerations.

G. Manual Operation – A metallic handwheel shall be provided for manual operation with an arrow to indicate the open rotation. The handwheel shall not rotate during motor operation. A fused motor shall not prevent manual operation. When in the manual operating mode, the actuator will remain in this mode until the motor is energized, at which time the actuator will automatically return to electric operation. Movement from motor operation to handwheel operation shall be accomplished by a positive padlockable declutch lever which mechanically disengages the motor and related gearing. It shall be impossible for simultaneous manual and motor operation to occur. Friction type declutch mechanisms are not acceptable. Rim pull on the manual handwheel when the valve is fully seated shall not exceed 80 pounds

H. Position Limit Switches – Position limit switches and the associated counter gearing shall be an integral part of the valve actuator. Limit switch gearing shall be of the intermittent type, made of bronze or stainless steel, grease lubricated, and totally enclosed to prevent dirt and foreign matter from entering the gear train. Switches shall be adjustable, allowing for trip points from fully open to fully closed positions of valve travel. They shall not be subject to breakage or slippage due to over-travel. Limit switches shall be heavy duty, silver plated with wiping action. The actuator shall have 16 contacts, 4 contacts for each of 4 rotors, all of the same design. Contacts shall be convertible from N/O to N/C in the field. Switch design shall permit visual verification of switch position without disassembly.

Limit switches that rely on the counting of electrical pulses, those that must rely on battery backup, or those that are not mechanical in nature are not permitted.

I. Torque Switch – Each valve actuator shall be equipped with a switch that will interrupt the control circuit in both the opening and closing directions when valve torque overload occurs or when valves require torque seating in the closed or open position. Contacts shall be silver plated. The torque switch shall have graduated dials for both open and close directions of travel and each shall be independently adjustable, with a positive means to limit the adjustability so as not to exceed the actuator output torque capability.

J. Control Compartment Heater – The control compartment shall be provided with a 120 volt AC space heater.

K. Electric Motor Controls – The motor controls are to be supplied integral to the actuator this includes a reversing motor starter, control transformer, and all necessary terminal strips. The control transformer shall have fuses on both primary legs, have a secondary leg grounded, and have a fuse on the other secondary leg. Wiring shall be hard wired point to point without any proprietary circuit boards, plug in components, or other equipment. All points for customer wiring shall go directly to terminal strips. The motor controls are to be readily accessible and completely visible with the electrical compartment cover removed. The intent is to make all controls accessible and simple to understand. All control wiring shall either be labeled at each end or color coded (to match wiring diagram).

L. Control Station – The actuator shall be equipped with a local close coupled control station. This station will have a 3 position selector switch (open-run-close), 2 LED

indicating lights (open-close), and a 3 position padlockable selector switch (local-off-remote).

M. Modulating Controls – The actuator shall be equipped with a positioning circuit that will position the valve proportionally to a 4 to 20 mA input signal. This device will have adjustments for proportional gain, zero, span, and deadband.

N. Gearing for Quarter-Turn Valves – The use of bolt on worm gear reducers for quarter-turn valves is required. This gearing will meet the AWWA C540 requirements.

O. Vendor Responsibility – In the case that an electric actuator is demonstrated to be sized to small; the vendor shall promptly modify the actuator or replace it with a larger unit at no cost to the Owner. If the actuator is shipped separate from the valve or if it is removed during construction, a factory trained service technician employed by the actuator manufacturer or one of the actuator's formally recognized service facilities shall perform startup and calibration on the equipment at no cost to the Owner. If the actuator is shipped assembled to the valve it shall be calibrated and tested at the valve manufacturer's facility, the actuator's manufacturer's facility, or one of their formally recognized service facilities. All setup and calibration shall be documented and submitted to the Engineer.

P. Startup – Startup and training by a factory trained service technician employed by the actuator manufacturer or one of their formally recognized facilities will be required at no cost to the Owner.

Q. Actuator – Electric Actuator shall be a Limitorque L120 series with PTA worm gear or Engineer approved equal.

PART 3 – EXECUTION

3.01 INSTALLATION – Install valves and piping in accordance with the manufacturer's recommendations and industry recognized standards. All piping and valves shall be installed plumbed and leveled. Bolts shall be installed to the proper torque.

END OF SECTION

SPECIAL NOTE FOR PRE-BID CONFERENCE

The Department of Highways will conduct a Mandatory Pre-Bid Conference on February 10, 2015 at 12:30 p.m. CST time at:

Murray State University- Paducah Campus Auditorium
4430 Sunset Avenue
Paducah, KY 42001

Any company that is interested in bidding on the subject project or being part of a joint venture must be represented at the Pre-Bid Conference by at least **one person of sufficient authority to bind the company**. No individual can represent more than one company. At the conference a roster will be taken of the representatives present.

ONLY COMPANIES REPRESENTED AT THE CONFERENCE WILL BE ELIGIBLE TO HAVE THEIR BIDS OPENED AT THE DATE OF THE LETTING.

The purpose of the conference is to familiarize all prospective bidders with the contract requirements of the contract.

Department of Highways officials present at the conference will answer questions concerning the projects.

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2012* and *Standard Drawings, Edition of 2012 with the 2012 Revision.*

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection:	102.15 Process Agent.
Revision:	Replace the 1st paragraph with the following: Every corporation doing business with the Department shall submit evidence of compliance with KRS Sections 14A.4-010, 271B.11-010, 271B.11-070, 271B.11-080, 271B.5-010 and 271B.16-220, and file with the Department the name and address of the process agent upon whom process may be served.
Subsection:	105.13 Claims Resolution Process.
Revision:	Delete all references to TC 63-34 and TC 63-44 from the subsection as these forms are no longer available through the forms library and are forms generated within the AASHTO SiteManager software.
Subsection:	108.03 Preconstruction Conference.
Revision:	Replace 8) Staking with the following: 8) Staking (designated by a Professional Engineer or Land Surveyor licensed in the Commonwealth of Kentucky.
Subsection:	109.07.02 Fuel.
Revision:	Revise item Crushed Aggregate Used for Embankment Stabilization to the following: Crushed Aggregate Used for Stabilization of Unsuitable Materials Used for Embankment Stabilization
	Delete the following item from the table. ~~Crushed Sandstone Base (Cement Treated)~~
Subsection:	110.02 Demobilization.
Revision:	Replace the first part of the first sentence of the second paragraph with the following: Perform all work and operations necessary to accomplish final clean-up as specified in the first paragraph of Subsection 105.12;
Subsection:	112.03.12 Project Traffic Coordinator (PTC).
Revision:	Replace the last paragraph of this subsection with the following: Ensure the designated PTC has sufficient skill and experience to properly perform the task assigned and has successfully completed the qualification courses.
Subsection:	112.04.18 Diversions (By-Pass Detours).
Revision:	Insert the following sentence after the 2nd sentence of this subsection. The Department will not measure temporary drainage structures for payment when the contract documents provide the required drainage opening that must be maintained with the diversion. The temporary drainage structures shall be incidental to the construction of the diversion. If the contract documents fail to provide the required drainage opening needed for the diversion, the cost of the temporary drainage structure will be handled as extra work in accordance with section 109.04.
Subsection:	201.03.01 Contractor Staking.
Revision:	Replace the first paragraph with the following: Perform all necessary surveying under the general supervision of a Professional Engineer or Land Surveyor licensed in the Commonwealth of Kentucky.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection:	201.04.01 Contractor Staking.
Revision:	Replace the last sentence of the paragraph with the following: Complete the general layout of the project under the supervision of a Professional Engineer or Land Surveyor licensed in the Commonwealth of Kentucky.
Subsection:	206.04.01 Embankment-in-Place.
Revision:	Replace the fourth paragraph with the following: The Department will not measure **suitable** excavation included in the original plans that is disposed of for payment and will consider it incidental to Embankment-in-Place.
Subsection:	208.02.01 Cement.
Revision:	Replace paragraph with the following: Select Type I or Type II cement conforming to Section 801. Use the same type cement throughout the work.
Subsection:	208.03.06 Curing and Protection.
Revision:	Replace the fourth paragraph with the following: Do not allow traffic or equipment on the finished surface until the stabilized subgrade has cured for a total of 7-days with an ambient air temperature above 40 degrees Fahrenheit. A curing day consists of a continuous 24-hour period in which the ambient air temperature does not fall below 40 degrees Fahrenheit. Curing days will not be calculated consecutively, but must total seven (7) , 24-hour days with the ambient air temperature remaining at or above 40 degrees Fahrenheit before traffic or equipment will be allowed to traverse the stabilized subgrade. The Department may allow a shortened curing period when the Contractor requests. The Contractor shall give the Department at least 3 day notice of the request for a shortened curing period. The Department will require a minimum of 3 curing days after final compaction. The Contractor shall furnish cores to the treated depth of the roadbed at 500 feet intervals for each lane when a shortened curing time is requested. The Department will test cores using an unconfined compression test. Roadbed cores must achieve a minimum strength requirement of 80 psi.
Subsection:	208.03.06 Curing and Protection.
Revision:	Replace paragraph eight with the following: At no expense to the Department, repair any damage to the subgrade caused by freezing.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	A) Seed Mixtures for Permanent Seeding.
Revision:	Revise **Seed Mix Type I** to the mixture shown below: 50% Kentucky 31 Tall Fescue (Festuca arundinacea) 35% Hard Fescue (Festuca (Festuca longifolia) 10% Ryegrass, Perennial (Lolium perenne) 5% White Dutch Clover (Trifolium repens)
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	A) Seed Mixtures for Permanent Seeding.
Number:	2)
Revision:	Replace the paragraph with the following: Permanent Seeding on Slopes Greater than 3:1 in Highway Districts 4, 5, 6, and 7. Apply seed mix Type II at a minimum application rate of 100 pounds per acre. If adjacent to a golf course replace the crown vetch with Kentucky 31 Tall Fescue.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	A) Seed Mixtures for Permanent Seeding.
Number:	3)
Revision:	Replace the paragraph with the following: Permanent Seeding on Slopes Greater than 3:1 in Highway Districts 1, 2, 3, 8, 9, 10, 11, and 12. Apply seed mix Type III at a minimum application rate of 100 pounds per acre. If adjacent to crop land or golf course, replace the Sericea Lespedeza with Kentucky 31 Fescue.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	B) Procedures for Permanent Seeding.
Revision:	Delete the first sentence of the section.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	B) Procedures for Permanent Seeding.
Revision:	Replace the second and third sentence of the section with the following: Prepare a seedbed and apply an initial fertilizer that contains a minimum of 100 pounds of nitrogen, 100 pounds of phosphate, and 100 pounds of potash per acre. Apply agricultural limestone to the seedbed when the Engineer determines it is needed. When required, place agricultural limestone at a rate of 3 tons per acre.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	D) Top Dressing.
Revision:	Change the title of part to D) Fertilizer.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	D) Fertilizer.
Revision:	Replace the first paragraph with the following: Apply fertilizer at the beginning of the seeding operation and after vegetation is established. Use fertilizer delivered to the project in bags or bulk. Apply initial fertilizer to all areas prior to the seeding or sodding operation at the application rate specified in 212.03.03 B). Apply 20-10-10 fertilizer to the areas after vegetation has been established at a rate of 11.5 pounds per 1,000 square feet. Obtain approval from the Engineer prior to the 2nd fertilizer application. Reapply fertilizer to any area that has a streaked appearance. The reapplication shall be at no additional cost to the Department. Re-establish any vegetation severely damaged or destroyed because of an excessive application of fertilizer at no cost to the Department.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	D) Fertilizer.
Revision:	Delete the second paragraph.
Subsection:	212.04.04 Agricultural Limestone.
Revision:	Replace the entire section with the following: The Department will measure the quantity of agricultural limestone in tons.
Subsection:	212.04.05 Fertilizer.
Revision:	Replace the entire section with the following: The Department will measure fertilizer used in the seeding or sodding operations for payment. The Department will measure the quantity by tons.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection:	212.05 PAYMENT.
Revision:	Delete the following item code:
	Code Pay Item Pay Unit
	05966 Topdressing Fertilizer Ton
Subsection:	212.05 PAYMENT.
Revision:	Add the following pay items:
	Code Pay Item Pay Unit
	05963 Initial Fertilizer Ton
	05964 20-10-10 Fertilizer Ton
	05992 Agricultural Limestone Ton
Subsection:	213.03.02 Progress Requirements.
Revision:	Replace the last sentence of the third paragraph with the following:
	Additionally, the Department will apply a penalty equal to the liquidated damages when all aspects of the work are not coordinated in an acceptable manner within 7 calendar days after written notification.
Subsection:	213.03.05 Temporary Control Measures.
Part:	E) Temporary Seeding and Protection.
Revision:	Delete the second sentence of the first paragraph.
Subsection:	304.02.01 Physical Properties.
Table:	Required Geogrid Properties
Revision:	Replace all references to Test Method "GRI-GG2-87" with ASTM D 7737.
Subsection:	402.03.02 Contractor Quality Control and Department Acceptance.
Part:	B) Sampling.
Revision:	Replace the second sentence with the following:
	The Department will determine when to obtain the quality control samples using the random-number feature of the mix design submittal and approval spreadsheet. The Department will randomly determine when to obtain the verification samples required in Subsections 402.03.03 and 402.03.04 using the Asphalt Mixture Sample Random Tonnage Generator.
Subsection:	402.03.02 Contractor Quality Control and Department Acceptance.
Part:	D) Testing Responsibilities.
Number:	3) VMA.
Revision:	Add the following paragraph below Number 3) VMA:
	Retain the AV/VMA specimens and one additional corresponding G_{mm} sample for 5 working days for mixture verification testing by the Department. For Specialty Mixtures, retain a mixture sample for 5 working days for mixture verification testing by the Department. When the Department's test results do not verify that the Contractor's quality control test results are within the acceptable tolerances according to Subsection 402.03.03, retain the samples and specimens from the affected sublot(s) for the duration of the project.
Subsection:	402.03.02 Contractor Quality Control and Department Acceptance.
Part:	D) Testing Responsibilities.
Number:	4) Density.
Revision:	Replace the second sentence of the Option A paragraph with the following:
	Perform coring by the end of the following work day.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection: **Part:** **Number:** **Revision:**	402.03.02 Contractor Quality Control and Department Acceptance. D) Testing Responsibilities. 5) Gradation. Delete the second paragraph.
Subsection: **Part:** **Number:** **Revision:**	402.03.02 Contractor Quality Control and Department Acceptance. H) Unsatisfactory Work. 1) Based on Lab Data. Replace the second paragraph with the following: When the Engineer determines that safety concerns or other considerations prohibit an immediate shutdown, continue work and the Department will make an evaluation of acceptability according to Subsection 402.03.05.
Subsection: **Revision:**	402.03.03 Verification. Replace the first paragraph with the following: **402.03.03 Mixture Verification.** For volumetric properties, the Department will perform a minimum of one verification test for AC, AV, and VMA according to the corresponding procedures as given in Subsection 402.03.02. The Department will randomly determine when to obtain the verification sample using the Asphalt Mixture Sample Random Tonnage Generator. For specialty mixtures, the Department will perform one AC and one gradation determination per lot according to the corresponding procedures as given in Subsection 402.03.02. However, Department personnel will not perform AC determinations according to KM 64-405. The Contractor will obtain a quality control sample at the same time the Department obtains the mixture verification sample and perform testing according to the procedures given in Subsection 402.03.02. If the Contractor's quality control sample is verified by the Department's test results within the tolerances provided below, the Contractor's sample will serve as the quality control sample for the affected sublot. The Department may perform the mixture verification test on the Contractor's equipment or on the Department's equipment.
Subsection: **Part:** **Revision:**	402.03.03 Verification. A) Evaluation of Sublot(s) Verified by Department. Replace the third sentence of the second paragraph with the following: When the paired *t* -test indicates that the Contractor's data and Department's data are possibly not from the same population, the Department will investigate the cause for the difference according to Subsection 402.03.05 and implement corrective measures as the Engineer deems appropriate.
Subsection: **Part:** **Revision:**	402.03.03 Verification. B) Evaluation of Sublots Not Verified by Department. Replace the third sentence of the first paragraph with the following: When differences between test results are not within the tolerances listed below, the Department will resolve the discrepancy according to Subsection 402.03.05.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection: **Part:** **Revision:**	402.03.03 Verification. B) Evaluation of Sublots Not Verified by Department. Replace the third sentence of the second paragraph with the following: When the *F* -test or *t* -test indicates that the Contractor's data and Department's data are possibly not from the same population, the Department will investigate the cause for the difference according to Subsection 402.03.05 and implement corrective measures as the Engineer deems appropriate.
Subsection: **Part:** **Revision:**	402.03.03 Verification. C) Test Data Patterns. Replace the second sentence with the following: When patterns indicate substantial differences between the verified and non-verified sublots, the Department will perform further comparative testing according to subsection 402.03.05.
Subsection: **Revision:**	402.03 CONSTRUCTION. Add the following subsection: **402.03.04 Testing Equipment and Technician Verification.** For mixtures with a minimum quantity of 20,000 tons and for every 20,000 tons thereafter, the Department will obtain an additional verification sample at random using the Asphalt Mixture Sample Random Tonnage Generator in order to verify the integrity of the Contractor's and Department's laboratory testing equipment and technicians. The Department will obtain a mixture sample of at least 150 lb at the asphalt mixing plant according to KM 64-425 and split it according to AASHTO R 47. The Department will retain one split portion of the sample and provide the other portion to the Contractor. At a later time convenient to both parties, the Department and Contractor will simultaneously reheat the sample to the specified compaction temperature and test the mixture for AV and VMA using separate laboratory equipment according to the corresponding procedures given in Subsection 402.03.02. The Department will evaluate the differences in test results between the two laboratories. When the difference between the results for AV or VMA is not within ± 2.0 percent, the Department will investigate and resolve the discrepancy according to Subsection 402.03.05.
Subsection: **Revision:**	402.03.04 Dispute Resolution. Change the subsection number to 402.03.05.
Subsection: **Part:** **Table:** **Revision:**	402.05 PAYMENT. Lot Pay Adjustment Schedule Compaction Option A Base and Binder Mixtures AC Replace the Deviation from JMF(%) that corresponds to a Pay Value of 0.95 to ±0.6.
Subsection: **Revision:**	403.02.10 Material Transfer Vehicle (MTV). Replace the first sentence with the following: In addition to the equipment specified above, provide a MTV with the following minimum characteristics:
Subsection: **Revision:**	412.02.09 Material Transfer Vehicle (MTV). Replace the paragraph with the following: Provide and utilize a MTV with the minimum characteristics outlined in section 403.02.10.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection: **Revision:**	412.03.07 Placement and Compaction. Replace the first paragraph with the following: Use a MTV when placing SMA mixture in the driving lanes. The MTV is not required on ramps and/or shoulders unless specified in the contract. When the Engineer determines the use of the MTV is not practical for a portion of the project, the Engineer may waive its requirement for that portion of pavement by a letter documenting the waiver.
Subsection: **Revision:**	412.04 MEASUREMENT. Add the following subsection: 412.04.03. Material Transfer Vehicle (MTV). The Department will not measure the MTV for payment and will consider its use incidental to the asphalt mixture.
Subsection: **Part:** **Revision:**	501.03.19 Surface Tolerances and Testing Surface. B) Ride Quality. Add the following to the end of the first paragraph: The Department will specify if the ride quality requirements are Category A or Category B when ride quality is specified in the Contract. Category B ride quality requirements shall apply when the Department fails to classify which ride quality requirement will apply to the Contract.
Subsection: **Revision:**	603.03.06 Cofferdams. Replace the seventh sentence of paragraph one with the following: Submit drawings that are stamped by a Professional Engineer licensed in the Commonwealth of Kentucky.
Subsection: **Revision:**	605.03.04 Tack Welding. Insert the subsection and the following: 605.03.04 Tack Welding. The Department does not allow tack welding.
Subsection: **Part:** **Number:** **Revision:**	606.03.17 Special Requirements for Latex Concrete Overlays. A) Existing Bridges and New Structures. 1) Prewetting and Grout-Bond Coat. Add the following sentence to the last paragraph: Do not apply a grout-bond coat on bridge decks prepared by hydrodemolition.
Subsection: **Revision:**	609.03 Construction. Replace Subsection 609.03.01 with the following: 609.03.01 A) Swinging the Spans. Before placing concrete slabs on steel spans or precast concrete release the temporary erection supports under the bridge and swing the span free on its supports. 609.03.01 B) Lift Loops. Cut all lift loops flush with the top of the precast beam once the beam is placed in the final location and prior to placing steel reinforcement. At locations where lift loops are cut, paint the top of the beam with galvanized or epoxy paint.
Subsection: **Revision:**	611.03.02 Precast Unit Construction. Replace the first sentence of the subsection with the following: Construct units according to ASTM C1577, **replacing Table 1 (Design Requirements for Precast Concrete Box Sections Under Earth, Dead and HL-93 Live Load Conditions) with KY Table 1 (Precast Culvert KYHL-93 Design Table)**, and Section 605 with the following exceptions and additions:

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection: **Number:** **Revision:**	613.03.01 Design. 2) Replace "AASHTO Standard Specifications for Highway Bridges" with "AASHTO LRFD Bridge Design Specifications"
Subsection: **Revision:**	615.06.02 Add the following sentence to the end of the subsection. The ends of units shall be normal to walls and centerline except exposed edges shall be beveled ¾ inch.
Subsection: **Revision:**	615.06.03 Placement of Reinforcement in Precast 3-Sided Units. Replace the reference of 6.6 in the section to 615.06.06.
Subsection: **Revision:**	615.06.04 Placement of Reinforcement for Precast Endwalls. Replace the reference of 6.7 in the section to 615.06.07.
Subsection: **Revision:**	615.06.06 Laps, Welds, and Spacing for Precast 3-Sided Units. Replace the subsection with the following: Tension splices in the circumferential reinforcement shall be made by lapping. Laps may not be tack welded together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.5.2 and AASHTO 2012 Bridge Design Guide Section 5.11.6.3. For deformed welded wire fabric, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.5.1 and AASHTO 2012 Bridge Design Guide Section 5.11.6.2. The overlap of welded wire fabric shall be measured between the outer most longitudinal wires of each fabric sheet. For deformed billet-steel bars, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.1. For splices other than tension splices, the overlap shall be a minimum of 12" for welded wire fabric or deformed billet-steel bars. The spacing center to center of the circumferential wires in a wire fabric sheet shall be no less than 2 inches and no more than 4 inches. The spacing center to center of the longitudinal wires shall not be more than 8 inches. The spacing center to center of the longitudinal distribution steel for either line of reinforcing in the top slab shall be not more than 16 inches.
Subsection: **Revision:**	615.06.07 Laps, Welds, and Spacing for Precast Endwalls. Replace the subsection with the following: Splices in the reinforcement shall be made by lapping. Laps may not be tack welded together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.5.2 and AASHTO 2012 Bridge Design Guide Section 5.11.6.3. For deformed welded wire fabric, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.5.1 and AASHTO 2012 Bridge Design Guide Section 5.11.6.2. For deformed billet-steel bars, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.1. The spacing center-to-center of the wire fabric sheet shall not be less than 2 inches or more than 8 inches.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection:	615.08.01 Type of Test Specimen.
Revision:	Replace the subsection with the following: Start-up slump, air content, unit weight, and temperature tests will be performed each day on the first batch of concrete. Acceptable start-up results are required for production of the first unit. After the first unit has been established, random acceptance testing is performed daily for each 50 yd^3 (or fraction thereof). In addition to the slump, air content, unit weight, and temperature tests, a minimum of one set of cylinders shall be required each time plastic property testing is performed.
Subsection:	615.08.02 Compression Testing.
Revision:	Delete the second sentence.
Subsection:	615.08.04 Acceptability of Core Tests.
Revision:	Delete the entire subsection.
Subsection:	615.12 Inspection.
Revision:	Add the following sentences to the end of the subsection: Units will arrive at jobsite with the "Kentucky Oval" stamped on the unit which is an indication of acceptable inspection at the production facility. Units shall be inspected upon arrival for any evidence of damage resulting from transport to the jobsite.
Subsection:	716.02.02 Paint.
Revision:	Replace sentence with the following: Conform to Section 821.
Subsection:	716.03 CONSTRUCTION.
Revision:	Replace bullet 5) with the following: 5) AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims,
Subsection:	716.03.02 Lighting Standard Installation.
Revision:	Replace the second sentence with the following: Regardless of the station and offset noted, locate all poles/bases behind the guardrail a minimum of four feet from the front face of the guardrail to the front face of the pole base.
Subsection:	716.03.02 Lighting Standard Installation.
Part:	A) Conventional Installation.
Revision:	Replace the third sentence with the following: Orient the transformer base so the door is positioned on the side away from on-coming traffic.
Subsection:	716.03.02 Lighting Standard Installation.
Part:	A) Conventional Installation.
Number:	1) Breakaway Installation and Requirements.
Revision:	Replace the first sentence with the following: For breakaway supports, conform to Section 12 of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims.
Subsection:	716.03.02 Lighting Standard Installation.
Part:	B) High Mast Installation
Revision:	Replace the first sentence with the following: Install each high mast pole as noted on plans.
Subsection:	716.03.02 Lighting Standard Installation.
Part:	B) High Mast Installation
Number:	2) Concrete Base Installation
Revision:	Modification of Chart and succeeding paragraphs within this section:

Supplemental Specifications to the Standard Specifications for Road and Bridge Construction, 2012 Edition Effective with the August 22, 2014 Letting

Drilled Shaft Depth Data							
Level Ground		3:1 Ground Slope		2:1 Ground Slope		1.5:1 Ground Slope (2)	
Soil	Rock	Soil	Rock	Soil	Rock	Soil	Rock
17 ft	7 ft	19 ft	7 ft	20 ft	7 ft	(1)	7 ft

Steel Requirements			
Vertical Bars		Ties or Spiral	
Size	Total	Size	Spacing or Pitch
#10	16	#4	12 inch

(1): Shaft length is 22' for cohesive soil only. For cohesionless soil, contact geotechnical branch for design.
(2): Do not construct high mast drilled shafts on ground slopes steeper than 1.5:1 without the approval of the Division of Traffic.

If rock is encountered during drilling operations and confirmed by the engineer to be of sound quality, the shaft is only required to be further advanced into the rock by the length of rock socket shown in the table. The total length of the shaft need not be longer than that of soil alone. Both longitudinal rebar length and number of ties or spiral length shall be adjusted accordingly.

If a shorter depth is desired for the drilled shaft, the contractor shall provide, for the state's review and approval, a detailed column design with individual site specific soil and rock analysis performed and approved by a Professional Engineer licensed in the Commonwealth of Kentucky.

Spiral reinforcement may be substituted for ties. If spiral reinforcement is used, one and one-half closed coils shall be provided at the ends of each spiral unit. Subsurface conditions consisting of very soft clay or very loose saturated sand could result in soil parameters weaker than those assumed. Engineer shall consult with the geotechnical branch if such conditions are encountered.

The bottom of the drilled hole shall be firm and thoroughly cleaned so no loose or compressible materials are present at the time of the concrete placement. If the drilled hole contains standing water, the concrete shall be placed using a tremie to displace water. Continuous concrete flow will be required to insure full displacement of any water.

The reinforcement and anchor bolts shall be adequately supported in the proper positions so no movement occurs during concrete placement. Welding of anchor bolts to the reinforcing cage is unacceptable, templates shall be used. Exposed portions of the foundation shall be formed to create a smooth finished surface. All forming shall be removed upon completion of foundation construction.

Subsection: 716.03.03 Trenching.
Part: A) Trenching of Conduit for Highmast Ducted Cables.
Revision: Add the following after the first sentence: If depths greater than 24 inches are necessary, obtain the Engineer's approval and maintain the required conduit depths coming into the junction boxes. No payment for additional junction boxes for greater depths will be allowed.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection:	716.03.03 Trenching.
Part:	B) Trenching of Conduit for Non-Highmast Cables.
Revision:	Add the following after the second sentence: If depths greater than 24 inches are necessary for either situation listed previously, obtain the Engineer's approval and maintain the required conduit depths coming into the junction boxes. No payment for additional junction boxes for greater depths will be allowed.
Subsection:	716.03.10 Junction Boxes.
Revision:	Replace subsection title with the following: Electrical Junction Box.
Subsection:	716.04.07 Pole with Secondary Control Equipment.
Revision:	Replace the paragraph with the following: The Department will measure the quantity as each individual unit furnished and installed. The Department will not measure mounting the cabinet to the pole, backfilling, restoration, any necessary hardware to anchor pole, or electrical inspection fees, and will consider them incidental to this item of work. The Department will also not measure furnishing and installing electrical service conductors, specified conduits, meter base, transformer, service panel, fused cutout, fuses, lighting arrestors, photoelectrical control, circuit breaker, contactor, manual switch, ground rods, and ground wires and will consider them incidental to this item of work.
Subsection:	716.04.08 Lighting Control Equipment.
Revision:	Replace the paragraph with the following: The Department will measure the quantity as each individual unit furnished and installed. The Department will not measure constructing the concrete base, excavation, backfilling, restoration, any necessary anchors, or electrical inspection fees, and will consider them incidental to this item of work. The Department will also not measure furnishing and installing electrical service conductors, specified conduits, meter base, transformer, service panel, fused cutout, fuses, lighting arrestors, photoelectrical control, circuit breakers, contactor, manual switch, ground rods, and ground wires and will consider them incidental to this item of work.
Subsection:	716.04.09 Luminaire.
Revision:	Replace the first sentence with the following: The Department will measure the quantity as each individual unit furnished and installed.
Subsection:	716.04.10 Fused Connector Kits.
Revision:	Replace the first sentence with the following: The Department will measure the quantity as each individual unit furnished and installed.
Subsection:	716.04.13 Junction Box.
Revision:	Replace the subsection title with the following: Electrical Junction Box Type Various.
Subsection:	716.04.13 Junction Box.
Part:	A) Junction Electrical.
Revision:	Rename A) Junction Electrical to the following: A) Electrical Junction Box.
Subsection:	716.04.14 Trenching and Backfilling.
Revision:	Replace the second sentence with the following: The Department will not measure excavation, backfilling, underground utility warning tape (if required), the restoration of disturbed areas to original condition, and will consider them incidental to this item of work.

Supplemental Specifications to the Standard Specifications for Road and Bridge Construction, 2012 Edition Effective with the August 22, 2014 Letting

Subsection: 716.04.18 Remove Lighting.
Revision: Replace the paragraph with the following:
The Department will measure the quantity as a lump sum for the removal of lighting equipment. The Department will not measure the disposal of all equipment and materials off the project by the contractor. The Department also will not measure the transportation of the materials and will consider them incidental to this item of work.

Subsection: 716.04.20 Bore and Jack Conduit.
Revision: Replace the paragraph with the following: The Department will measure the quantity in linear feet. This item shall include all work necessary for boring and installing conduit under an existing roadway. Construction methods shall be in accordance with Sections 706.03.02, paragraphs 1, 2, and 4.

Subsection: 716.05 PAYMENT.
Revision: Replace items 04810-04811, 20391NS835 and, 20392NS835 under Code, Pay Item, and Pay Unit with the following:

Code	Pay Item	Pay Unit
04810	Electrical Junction Box	Each
04811	Electrical Junction Box Type B	Each
20391NS835	Electrical Junction Box Type A	Each
20392NS835	Electrical Junction Box Type C	Each

Subsection: 723.02.02 Paint.
Revision: Replace sentence with the following: Conform to Section 821.

Subsection: 723.03 CONSTRUCTION.
Revision: Replace bullet 5) with the following: 5) AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims,

Subsection: 723.03.02 Poles and Bases Installation.
Revision: Replace the first sentence with the following:
Regardless of the station and offset noted, locate all poles/bases behind the guardrail a minimum of four feet from the front face of the guardrail to the front face of the pole base.

Subsection: 723.03.02 Poles and Bases Installation.
Part: A) Steel Strain and Mastarm Poles Installation
Revision: Replace the second paragraph with the following: For concrete base installation, see Section 716.03.02, B), 2), Paragraphs 2-7. Drilled shaft depth shall be based on the soil conditions encountered during drilling and slope condition at the site. Refer to the design chart below:

Subsection: 723.03.02 Poles and Bases Installation.
Part: B) Pedestal or Pedestal Post Installation.
Revision: Replace the fourth sentence of the paragraph with the following: For breakaway supports, conform to Section 12 of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims.

Supplemental Specifications to the Standard Specifications for Road and Bridge Construction, 2012 Edition Effective with the August 22, 2014 Letting

Subsection: **Part:** **Revision:**	723.03.03 Trenching. A) Under Roadway. Add the following after the second sentence: If depths greater than 24 inches are necessary, obtain the Engineer's approval and maintain ether required conduit depths coming into the junction boxes. No payment for additional junction boxes for greater depths will be allowed.
Subsection: **Revision:**	723.03.11 Wiring Installation. Add the following sentence between the fifth and sixth sentences: Provide an extra two feet of loop wire and lead-in past the installed conduit in poles, pedestals, and junction boxes.
Subsection: **Revision:**	723.03.12 Loop Installation. Replace the fourth sentence of the 2nd paragraph with the following: Provide an extra two feet of loop wire and lead-in past the installed conduit in poles, pedestals, and junction boxes.
Subsection: **Revision:**	723.04.02 Junction Box. Replace subsection title with the following: Electrical Junction Box Type Various.
Subsection: **Revision:**	723.04.03 Trenching and Backfilling. Replace the second sentence with the following: The Department will not measure excavation, backfilling, underground utility warning tape (if required), the restoration of disturbed areas to original condition, and will consider them incidental to this item of work.
Subsection: **Revision:**	723.04.10 Signal Pedestal. Replace the second sentence with the following: The Department will not measure excavation, concrete, reinforcing steel, specified conduits, fittings, ground rod, ground wire, backfilling, restoring disturbed areas, or other necessary hardware and will consider them incidental to this item of work.
Subsection: **Revision:**	723.04.15 Loop Saw Slot and Fill. Replace the second sentence with the following: The Department will not measure sawing, cleaning and filling induction loop saw slot, loop sealant, backer rod, and grout and will consider them incidental to this item of work.
Subsection: **Revision:**	723.04.16 Pedestrian Detector. Replace the paragraph with the following: The Department will measure the quantity as each individual unit furnished, installed and connected to pole/pedestal. The Department will not measure installing R10-3e (with arrow) sign, furnishing and installing mounting hardware for sign and will consider them incidental to this item of work.
Subsection: **Revision:**	723.04.18 Signal Controller- Type 170. Replace the second sentence with the following: The Department will not measure constructing the concrete base or mounting the cabinet to the pole, connecting the signal and detectors, excavation, backfilling, restoration, any necessary pole mounting hardware, electric service, or electrical inspection fees and will consider them incidental to this item of work. The Department will also not measure furnishing and connecting the induction of loop amplifiers, pedestrian isolators, load switches, model 400 modem card; furnishing and installing electrical service conductors, specified conduits, anchors, meter base, fused cutout, fuses, ground rods, ground wires and will consider them incidental to this item of work.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection: **Revision:**	723.04.20 Install Signal Controller - Type 170. Replace the paragraph with the following: The Department will measure the quantity as each individual unit installed. The Department will not measure constructing the concrete base or mounting the cabinet to the pole, connecting the signal and detectors, and excavation, backfilling, restoration, any necessary pole mounting hardware, electric service, or electrical inspection fees and will consider them incidental to this item of work. The Department will also not measure connecting the induction loop amplifiers, pedestrian, isolators, load switches, model 400 modem card; furnishing and installing electrical service conductors, specified conduits, anchors, meter base, fused cutout, fuses, ground rods, ground wires and will consider them incidental to this item of work.
Subsection: **Revision:**	723.04.22 Remove Signal Equipment. Replace the paragraph with the following: The Department will measure the quantity as a lump sum removal of signal equipment. The Department will not measure the return of control equipment and signal heads to the Department of Highways as directed by the District Traffic Engineer. The Department also will not measure the transportation of materials of the disposal of all other equipment and materials off the project by the contractor and will consider them incidental to this item of work.
Subsection: **Revision:**	723.04.28 Install Pedestrian Detector Audible. Replace the second sentence with the following: The Department will not measure installing sign R10-3e (with arrow) and will consider it incidental to this item of work.
Subsection: **Revision:**	723.04.29 Audible Pedestrian Detector. Replace the second sentence with the following: The Department will not measure furnishing and installing the sign R10-3e (with arrow) and will consider it incidental to this item of work.
Subsection: **Revision:**	723.04.30 Bore and Jack Conduit. Replace the paragraph with the following: The Department will measure the quantity in linear feet. This item shall include all work necessary for boring and installing conduit under an existing roadway. Construction methods shall be in accordance with Sections 706.03.02, paragraphs 1, 2, and 4.
Subsection: **Revision:**	723.04.31 Install Pedestrian Detector. Replace the paragraph with the following: The Department will measure the quantity as each individual unit installed and connected to pole/pedestal. The Department will not measure installing sign R 10-3e (with arrow) and will consider it incidental to this item of work.
Subsection: **Revision:**	723.04.32 Install Mast Arm Pole. Replace the second sentence with the following: The Department will not measure arms, signal mounting brackets, anchor bolts, or any other necessary hardware and will consider them incidental to this item of work.
Subsection: **Revision:**	723.04.33 Pedestal Post. Replace the second sentence with the following: The Department will not measure excavation, concrete, reinforcing steel, anchor bolts, conduit, fittings, ground rod, ground wire, backfilling, restoration, or any other necessary hardware and will consider them incidental to this item of work.

Supplemental Specifications to the Standard Specifications for Road and Bridge Construction, 2012 Edition Effective with the August 22, 2014 Letting

Subsection: 723.04.36 Traffic Signal Pole Base.
Revision: Replace the second sentence with the following: The Department will not measure excavation, reinforcing steel, anchor bolts, specified conduits, ground rods, ground wires, backfilling, or restoration and will consider them incidental to this item of work.

Subsection: 723.04.37 Install Signal Pedestal.
Revision: Replace the second sentence with the following: The Department will not measure excavation, concrete, reinforcing steel, anchor bolts, specified conduits, fittings, ground rod, ground wire, backfilling, restoration, or any other necessary hardware and will consider them incidental to this item of work.

Subsection: 723.04.38 Install Pedestal Post.
Revision: Replace the second sentence with the following: The Department will not measure excavation, concrete, reinforcing steel, anchor bolts, specified conduits, fittings, ground rod, ground wire, backfilling, restoration, or any other necessary hardware and will consider them incidental to this item of work.

Subsection: 723.05 PAYMENT.
Revision: Replace items 04810-04811, 20391NS835 and, 20392NS835 under Code, Pay Item, and Pay Unit with the following:

Code	Pay Item	Pay Unit
04810	Electrical Junction Box	Each
04811	Electrical Junction Box Type B	Each
20391NS835	Electrical Junction Box Type A	Each
20392NS835	Electrical Junction Box Type C	Each

Subsection: 804.01.02 Crushed Sand.
Revision: Delete last sentence of the section.

Subsection: 804.01.06 Slag.
Revision: Add subsection and following sentence.
Provide blast furnace slag sand where permitted. The Department will allow steel slag sand only in asphalt surface applications.

Subsection: 804.04 Asphalt Mixtures.
Revision: Replace the subsection with the following:
Provide natural, crushed, conglomerate, or blast furnace slag sand, with the addition of filler as necessary, to meet gradation requirements. The Department will allow any combination of natural, crushed, conglomerate or blast furnace slag sand when the combination is achieved using cold feeds at the plant. The Engineer may allow other fine aggregates.

Subsection: 806.03.01 General Requirements.
Revision: Replace the second sentence of the paragraph with the following:
Additionally, the material must have a minimum solubility of 99.0 percent when tested according to AASHTO T 44 and PG 76-22 must exhibit a minimum recovery of 60 percent, with a J_{NR} (nonrecoverable creep compliance) between 0.1 and 0.5, when tested according to AASHTO TP 70.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection: **Table:** **Revision:**	806.03.01 General Requirements. PG Binder Requirements and Price Adjustment Schedule Replace the Elastic Recovery, % [3] (AASHTO T301) and all corresponding values in the table with the following:

Test	Specification	100% Pay	90% Pay	80% Pay	70% Pay	50%Pay[1]
MSCR recovery, % [3] (AASHTO TP 70)	60 Min.	≥58	56	55	54	<53

Subsection: **Table:** **Superscript:** **Revision:**	806.03.01 General Requirements. PG Binder Requirements and Price Adjustment Schedule (3) Replace [3] with the following: Perform testing at 64°C.
Subsection: **Revision:**	813.04 Gray Iron Castings. Replace the reference to "AASHTO M105" with "ASTM A48".
Subsection: **Number:** **Revision:**	813.09.02 High Strength Steel Bolts, Nuts, and Washers. A) Bolts. Delete first paragraph and "Hardness Number" Table. Replace with the following: A) Bolts. Conform to ASTM A325 (AASHTO M164) or ASTM A490 (AASHTO 253) as applicable.
Subsection: **Revision:**	814.04.02 Timber Guardrail Posts. Third paragraph, replace the reference to "AWPA C14" with "AWPA U1, Section B, Paragraph 4.1".
Subsection: **Revision:**	814.04.02 Timber Guardrail Posts. Replace the first sentence of the fourth paragraph with the following: Use any of the species of wood for round or square posts covered under AWPA U1.
Subsection: **Revision:**	814.04.02 Timber Guardrail Posts. Fourth paragraph, replace the reference to "AWPA C2" with "AWPA U1, Section B, Paragraph 4.1".
Subsection: **Revision:**	814.04.02 Timber Guardrail Posts. Delete the second sentence of the fourth paragraph.
Subsection: **Revision:**	814.05.02 Composite Plastic. 1) Add the following to the beginning of the first paragraph: Select composite offset blocks conforming to this section and assure blocks are from a manufacturer included on the Department's List of Approved Materials. 2) Delete the last paragraph of the subsection.
Subsection: **Revision:**	816.07.02 Wood Posts and Braces. First paragraph, replace the reference to "AWPA C5" with "AWPA U1, Section B, Paragraph 4.1".
Subsection: **Revision:**	816.07.02 Wood Posts and Braces. Delete the second sentence of the first paragraph.
Subsection: **Revision:**	818.07 Preservative Treatment. First paragraph, replace all references to "AWPA C14" with "AWPA U1, Section A".

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection: **Revision:**	834.14 Lighting Poles. Replace the first sentence with the following: Lighting pole design shall be in accordance with loading and allowable stress requirements of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims, with the exception of the following: The Cabinet will waive the requirement stated in the first sentence of Section 5.14.6.2 – Reinforced Holes and Cutouts for high mast poles (only). The minimum diameter at the base of the pole shall be 22 inches for high mast poles (only).
Subsection **Revision:**	834.14.03 High Mast Poles. Remove the second and fourth sentence from the first paragraph.
Subsection **Revision:**	834.14.03 High Mast Poles. Replace the third paragraph with the following: Provide calculations and drawings that are stamped by a Professional Engineer licensed in the Commonwealth of Kentucky.
Subsection: **Revision:**	834.14.03 High Mast Poles. Replace paragraph six with the following: Provide a pole section that conforms to ASTM A 595 grade A with a minimum yield strength of 55 KSI or ASTM A 572 with a minimum yield strength of 55 KSI. Use tubes that are round or 16 sided with a four inch corner radius, have a constant linear taper of .144 in/ft and contain only one longitudinal seam weld. Circumferential welded tube butt splices and laminated tubes are not permitted. Provide pole sections that are telescopically slip fit assembled in the field to facilitate inspection of interior surface welds and the protective coating. The minimum length of the telescopic slip splices shall be 1.5 times the inside diameter of the exposed end of the female section. Use longitudinal seam welds as commended in Section 5.15 of the AASHTO 2013 Specifications. The thickness of the transverse base shall not be less than 2 inches. Plates shall be integrally welded to the tubes with a telescopic welded joint or a full penetration groove weld with backup bar. The handhole cover shall be removable from the handhole frame. One the frame side opposite the hinge, provide a mechanism on the handhole cover/frame to place the Department's standard padlock as specified in Section 834.25. The handhole frame shall have two stainless studs installed opposite the hinge to secure the handhole cover to the frame which includes providing stainless steel wing nuts and washers. The handhole cover shall be manufactured from 0.25 inch thick galvanized steel (ASTM A 153) and have a neoprene rubber gasket that is permanently secured to the handhole frame to insure weather-tight protection. The hinge shall be manufactured from 7-guage stainless steel to provide adjustability to insure weather-tight fit for the cover. The minimum clear distance between the transverse plate and the bottom opening of the handhole shall not be less than the diameter of the bottom tube of the pole but needs to be at least 15 inches. Provide products that are hot-dip galvanized to the requirements of either ASTM A123 (fabricated products) or ASTM A 153 (hardware items).
Subsection: **Revision:**	834.16 ANCHOR BOLTS. Insert the following sentence at the beginning of the paragraph: The anchor bolt design shall follow the NCHRP Report 494 Section 2.4 and NCHRP 469 Appendix A Specifications.

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the August 22, 2014 Letting

Subsection: **Revision:**	834.17.01 Conventional. Add the following sentence after the second sentence: Provide a waterproof sticker mounted on the bottom of the housing that is legible from the ground and indicates the wattage of the fixture by providing the first two numbers of the wattage.
Subsection: **Revision:**	834.21.01 Waterproof Enclosures. Replace the last five sentences in the second paragraph with the following sentences: Provide a cabinet door with a louvered air vent, filter-retaining brackets and an easy to clean metal filter. Provide a cabinet door that is keyed with a factory installed standard no. 2 corbin traffic control key. Provide a light fixture with switch and bulb. Use a 120-volt fixture and utilize a L.E.D. bulb (equivalent to 60 watts minimum). Fixture shall be situated at or near the top of the cabinet and illuminate the contents of the cabinet. Provide a 120 VAC GFI duplex receptacle in the enclosure with a separate 20 amp breaker.
Subsection: **Revision:**	835.07 Traffic Poles. Replace the first sentence of the first paragraph with the following: Pole diameter and wall thickness shall be calculated in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims.
Subsection: **Revision:**	835.07 Traffic Poles. *Replace the first sentence of the fourth paragraph with the following: Ensure transverse plates have a thickness ≥ 2 inches. *Add the following sentence to the end of the fourth paragraph: The bottom pole diameter shall not be less than 16.25 inches.
Subsection: **Revision:**	835.07 Traffic Poles. Replace the third sentence of the fifth paragraph with the following: For anchor bolt design, pole forces shall be positioned in such a manner to maximize the force on any individual anchor bolt regardless of the actual anchor bolt orientation with the pole.
Subsection: **Revision:**	835.07 Traffic Poles. Replace the first and second sentence of the sixth paragraph with the following: The pole handhole shall be 25 inches by 6.5 inches. The handhole cover shall be removable from the handhole frame. On the frame side opposite the hinge, provide a mechanism on the handhole cover/frame to place the Department's standard padlock as specified in Section 834.25. The handhole frame shall have two stainless studs installed opposite the hinge to secure the handhole cover to the frame which includes providing stainless steel wing nuts and washers. The handhole cover shall be manufactured from 0.25 inch thick galvanized steel (ASTM 153) and have a neoprene rubber gasket that is permanently secured to the handhole frame to insure weather-tight protection. The hinge shall be manufactured from 7 gauge stainless steel to provide adjustability to insure a weather-tight fit for the cover. The minimum clear distance between the transverse plate and the bottom opening of the handhole shall not be less than the diameter of the bottom tube but needs to be at least 12 inches.

Supplemental Specifications to the Standard Specifications for Road and Bridge Construction, 2012 Edition Effective with the August 22, 2014 Letting

Subsection:	835.07 Traffic Poles.
Revision:	*Replace the first sentence of the last paragraph with the following: Provide calculations and drawings that are stamped by a Professional Engineer licensed in the Commonwealth of Kentucky. *Replace the third sentence of the last paragraph with the following: All tables referenced in 835.07 are found in the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims.
Subsection:	835.07.01 Steel Strain Poles.
Revision:	Replace the second sentence of the second paragraph with the following: The detailed analysis shall be certified by a Professional Engineer licensed in the Commonwealth of Kentucky.
Subsection:	835.07.01 Steel Strain Poles.
Revision:	Replace number 7. after the second paragraph with the following: 7. Fatigue calculations should be shown for all fatigue related connections. Provide the corresponding detail, stress category and example from table 11.9.3.1-1.
Subsection:	835.07.02 Mast Arm Poles.
Revision:	Replace the second sentence of the fourth paragraph with the following: The detailed analysis shall be certified by a Professional Engineer licensed in the Commonwealth of Kentucky.
Subsection:	835.07.02 Mast Arm Poles.
Revision:	Replace number 7) after the fourth paragraph with the following: 7) Fatigue calculations should be shown for all fatigue related connections. Provide the corresponding detail, stress category and example from table 11.9.3.1-1.
Subsection:	835.07.03 Anchor Bolts.
Revision:	Add the following to the end of the paragraph: There shall be two steel templates (one can be used for the headed part of the anchor bolt when designed in this manner) provided per pole. Templates shall be contained within a 26.5 inch diameter. All templates shall be fully galvanized (ASTM A 153).
Subsection:	835.16.05 Optical Units.
Revision:	Replace the 3rd paragraph with the following: The list of certified products can be found on the following website: http://www.intertek.com.
Subsection:	835.19.01 Pedestrian Detector Body.
Revision:	Replace the first sentence with the following: Provide a four holed pole mounted aluminum rectangular housing that is compatible with the pedestrian detector.
Subsection:	843.01.01 Geotextile Fabric.
Table:	TYPE I FABRIC GEOTEXTILES FOR SLOPE PROTECTION AND CHANNEL LINING
Revision:	Add the following to the chart:

Property	Minimum Value[(1)]	Test Method
CBR Puncture (lbs)	494	ASTM D6241
Permittivity (1/s)	0.7	ASTM D4491

Supplemental Specifications to the Standard Specifications for Road and Bridge Construction, 2012 Edition Effective with the August 22, 2014 Letting

Subsection: 843.01.01 Geotextile Fabric.
Table: TYPE II FABRIC GEOTEXTILES FOR UNDERDRAINS
Revision: Add the following to the chart:

Property	Minimum Value[1]	Test Method
CBR Puncture (lbs)	210	ASTM D6241
Permittivity (1/s)	0.5	ASTM D4491

Subsection: 843.01.01 Geotextile Fabric.
Table: TYPE III FABRIC GEOTEXTILES FOR SUBGRADE OR EMBANKMENT STABILIZATION
Revision: Add the following to the chart:

Property	Minimum Value[1]	Test Method
CBR Puncture (lbs)	370	ASTM D6241
Permittivity (1/s)	0.05	ASTM D4491

Subsection: 843.01.01 Geotextile Fabric.
Table: TYPE IV FABRIC GEOTEXTILES FOR EMBANKMENT DRAINAGE BLANKETS AND PAVEMENT EDGE DRAINS
Revision: Add the following to the chart:

Property	Minimum Value[1]	Test Method
CBR Puncture (lbs)	309	ASTM D6241
Permittivity (1/s)	0.5	ASTM D4491

Subsection: 843.01.01 Geotextile Fabric.
Table: TYPE V HIGH STRENGTH GEOTEXTILE FABRIC
Revision: Make the following changes to the chart:

Property	Minimum Value[1]	Test Method
CBR Puncture (lbs)	618	ASTM D6241
Grab Strength (lbs)	700	ASTM D4632
Apparent Opening Size	U.S. #40[3]	ASTM D4751

[3] Maximum average roll value.

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. 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 1.d. 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 29 CFR 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 1.b. 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.

b.(1) The contracting officer 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 contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) 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.

c. 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.

d. 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 contracting 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 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 contracting agency may, after written notice to the contractor, 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

a. 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.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted 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 weekly transmittals. 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/esa/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 contracting agency for transmission to the State DOT, the FHWA 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 contracting agency..

(2) 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:

(i) 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;

(ii) 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;

(iii) 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.

(3) 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 3.b.(2) of this section.

(4) 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.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, 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 FHWA may, after written notice to the contractor, the contracting agency or the State DOT, 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

a. Apprentices (programs of the USDOL).

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.

b. Trainees (programs of the USDOL).

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.

c. 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.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

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 Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 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 the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. 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).

b. 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).

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

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) 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 (1.) of this section, the contractor and any subcontractor responsible therefor 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 (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 (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting 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 Contract Work Hours and Safety Standards Act, 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 (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (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 (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) 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;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) 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.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. 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 any Federal 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.

b. 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 Federal 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.

2. 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 31 U.S.C. 1352. 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.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

EMPLOYMENT REQUIREMENTS
RELATING TO
NONDISCRIMINATION OF EMPLOYEES
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)

AN ACT OF THE KENTUCKY GENERAL ASSEMBLY TO PREVENT DISCRIMINATION IN EMPLOYMENT

KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (between forty and seventy); or 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 race, color, religion, national origin, sex, disability or age (between forty and seventy). The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, disability or age (between forty and seventy), except that such notice or advertisement may indicate a preference, limitation, or specification based on religion, or national origin when religion, or national origin is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age (between forty and seventy), in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

REVISED: 12-3-92

Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:

    a. withholding payments to the contractor under the contract until the contractor complies; and/or
    b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq*., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq*.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq*.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq*.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

> KRS 11A.040 (6) provides:
>
> No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with the state in matters in which he was directly involved during his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved in state government. This subsection shall not prohibit the performance of ministerial functions, including, but not limited to, filing tax returns, filing applications for permits or licenses, or filing incorporation papers.
>
> KRS 11A.040 (8) states:
>
> A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, for a period of one (1) year after the latter of:
> a) The date of leaving office or termination of employment; or
> b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

General Decision Number: KY150102 01/30/2015 KY102

Superseded General Decision Number: KY20140102

State: Kentucky

Construction Type: Highway

Counties: Allen, Ballard, Butler, Caldwell, Calloway, Carlisle, Christian, Crittenden, Daviess, Edmonson, Fulton, Graves, Hancock, Henderson, Hickman, Hopkins, Livingston, Logan, Lyon, Marshall, McCracken, McLean, Muhlenberg, Ohio, Simpson, Todd, Trigg, Union, Warren and Webster Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

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	01/30/2015

BRIN0004-002 06/01/2014

BALLARD, BUTLER, CALDWELL, CARLISLE, CRITTENDEN, DAVIESS, EDMONSON, FULTON, GRAVES, HANCOCK, HENDERSON, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCRACKEN, MCLEAN, MUHLENBERG, OHIO, UNION, and WEBSTER COUNTIES

	Rates	Fringes
BRICKLAYER		
Ballard, Caldwell, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, Marshall, and McCracken Counties	$ 29.52	13.37
Butler, Edmonson, Hopkins, Muhlenberg, and Ohio Counties	$ 24.61	10.22

Daviess, Hancock,
Henderson, McLean, Union,
and Webster Counties.....$ 28.68 13.72

BRTN0004-005 06/01/2014

ALLEN, CALLOWAY, CHRISTIAN, LOGAN, SIMPSON, TODD, TRIGG, and WARREN COUNTIES

	Rates	Fringes
BRICKLAYER	$ 25.37	10.50

CARP0357-002 04/01/2014

	Rates	Fringes
CARPENTER	$ 27.50	14.92
Diver	$ 41.63	14.92
PILEDRIVERMAN	$ 27.75	14.92

ELEC0369-006 05/28/2014

BUTLER, EDMONSON, LOGAN, TODD & WARREN COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 29.88	14.78

ELEC0429-001 06/01/2014

ALLEN & SIMPSON COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 24.44	10.15 + 5%

ELEC0816-002 06/01/2014

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON (Except a 5 mile radius of City Hall in Fulton), GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 30.82	25.5%+5.85

Cable spicers receive $.25 per hour additional.

ELEC1701-003 06/01/2013

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO, UNION & WEBSTER COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 30.03	13.72

Cable spicers receive $.25 per hour additional.

ELEC1925-002 06/01/2014

FULTON COUNTY (Up to a 5 mile radius of City Hall in Fulton):

	Rates	Fringes
CABLE SPLICER	$ 25.00	10.27
ELECTRICIAN	$ 24.80	11.01

ENGI0181-017 07/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 28.85	14.15
GROUP 2	$ 26.24	14.15
GROUP 3	$ 26.65	14.15
GROUP 4	$ 25.95	14.15

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurries; 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; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (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 (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Conrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher;

Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points;& Whirley Oiler

GROUP 3 -All Off Road Material Handling Equipment, including Articulating Dump Trucks; Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine; 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); Steerman; Tamping Machine; Tractor (Under 50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling equals or exceeds 150 ft. - $1.00 above 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.

IRON0070-005 06/01/2014

BUTLER COUNTY (Eastern eighth, including the Townships of Decker, Lee & Tilford);
EDMONSON COUNTY (Northern three-fourths, including the Townships of Asphalt, Bee Spring, Brownsville, Grassland, Huff, Kyrock, Lindseyville, Mammoth Cave, Ollie, Prosperity, Rhoda, Sunfish & Sweden)

	Rates	Fringes
IRONWORKER		
Structural; Ornamental; Reinforcing; Precast Concrete Erectors	$ 26.97	19.75

IRON0103-004 04/01/2013

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, OHIO, UNION & WEBSTER COUNTIES
BUTLER COUNTY (Townships of Aberdeen, Bancock, Casey, Dexterville, Dunbar, Elfie, Gilstrap, Huntsville, Logansport, Monford, Morgantown, Provo, Rochester, South Hill & Welchs Creek);
CALDWELL COUNTY (Northeastern third, including the Township of Creswell);
CHRISTIAN COUNTY (Northern third, including the Townships of Apex, Crofton, Kelly, Mannington & Wynns);
CRITTENDEN COUNTY (Northeastern half, including the Townships of Grove, Mattoon, Repton, Shady Grove & Tribune);
MUHLENBERG COUNTY (Townships of Bavier, Beech Creek Junction, Benton, Brennen, Browder, Central City, Cleaton, Depoy, Drakesboro, Eunis, Graham, Hillside, Luzerne, Lynn City, Martwick, McNary, Millport, Moorman, Nelson, Paradise, Powderly, South Carrollton, Tarina & Weir)

	Rates	Fringes
Ironworkers:.....	$ 27.82	16.555

IRON0492-003 05/01/2013

ALLEN, LOGAN, SIMPSON, TODD & WARREN COUNTIES
BUTLER COUNTY (Southern third, including the Townships of Boston, Berrys Lick, Dimple, Jetson, Quality, Sharer, Sugar Grove & Woodbury);
CHRISTIAN COUNTY (Eastern two-thirds, including the Townships of Bennettstown, Casky, Herndon, Hopkinsville, Howell, Masonville, Pembroke & Thompsonville);
EDMONSON COUNTY (Southern fourth, including the Townships of Chalybeate & Rocky Hill);
MUHLENBERG COUNTY (Southern eighth, including the Townships of Dunnior, Penrod & Rosewood)

	Rates	Fringes
Ironworkers:.....	$ 23.84	10.96

IRON0782-006 05/01/2014

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES
CALDWELL COUNTY (Southwestern two-thirds, including the Townships of Cedar Bluff, Cider, Claxton, Cobb, Crowtown, Dulaney, Farmersville, Fredonia, McGowan, Otter Pond & Princeton);
CHRISTIAN COUNTY (Western third, Excluding the Townships of Apex, Crofton, Kelly, Mannington, Wynns, Bennettstown, Casky, Herndon, Hopkinsville, Howell, Masonville, Pembroke & Thompsonville);
CRITTENDEN COUNTY (Southwestern half, including the Townships of Crayne, Dycusburg, Frances, Marion, Mexico, Midway, Sheridan & Told)

	Rates	Fringes
Ironworkers:		
Projects with a total contract cost of $20,000,000.00 or above.....	$ 27.09	20.66
All Other Work.....	$ 25.50	19.02

LABO0189-005 07/01/2014

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL & MCCRACKEN COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	$ 21.50	12.26

GROUP 2	$ 21.75	12.26
GROUP 3	$ 21.80	12.26
GROUP 4	$ 22.40	12.26

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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LABO0189-006 07/01/2014

ALLEN, BUTLER, CALDWELL, CHRISTIAN, DAVIESS, EDMONSON, HANCOCK, HOPKINS, LOGAN, MCLEAN, MUHLENBERG, OHIO, SIMPSON, TODD, TRIGG & WARREN COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 22.66	11.10
GROUP 2	$ 22.91	11.10
GROUP 3	$ 22.96	11.10
GROUP 4	$ 23.56	11.10

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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LABO0561-001 07/01/2014

CRITTENDEN, HENDERSON, UNION & WEBSTER COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 21.36	12.65
GROUP 2	$ 21.61	12.65
GROUP 3	$ 21.66	12.65
GROUP 4	$ 22.26	12.65

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson;

Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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PAIN0032-002 05/01/2013

BALLARD COUNTY

	Rates	Fringes
Painters:		
Bridges	$ 30.56	15.18
All Other Work	$ 28.26	15.18

Spray, Blast, Steam, High & Hazardous (Including Lead Abatement) and All Epoxy - $1.00 Premium

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* PAIN0118-003 06/01/2014

EDMONSON COUNTY:

	Rates	Fringes
Painters:		
Brush & Roller	$ 18.50	11.97
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning	$ 19.50	11.97

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* PAIN0156-006 04/01/2014

DAVIESS, HANCOCK, HENDERSON, MCLEAN, OHIO, UNION & WEBSTER COUNTIES

	Rates	Fringes
Painters:		
BRIDGES		
GROUP 1	$ 27.20	12.35
GROUP 2	$ 27.45	12.35
GROUP 3	$ 28.20	12.35
GROUP 4	$ 29.20	12.35
ALL OTHER WORK:		
GROUP 1	$ 26.05	12.35
GROUP 2	$ 26.30	12.35
GROUP 3	$ 27.05	12.35
GROUP 4	$ 28.05	12.35

PAINTER CLASSIFICATIONS

GROUP 1 - Brush & Roller

GROUP 2 - Plasterers

GROUP 3 - Spray; Sandblast; Power Tools; Waterblast; Steamcleaning; Brush & Roller of Mastics, Creosotes, Kwinch Koate & Coal Tar Epoxy

GROUP 4 - Spray of Mastics, Creosotes, Kwinch Koate & Coal Tar Epoxy

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PAIN0456-003 07/01/2011

ALLEN, BUTLER, LOGAN, MUHLENBERG, SIMPSON, TODD & WARREN COUNTIES:

	Rates	Fringes
Painters:		
BRIDGES		
Brush & Roller	$ 22.55	9.65
Spray; Sandblast; Power Tools; Waterblast & Steam Cleaning	$ 23.55	9.65
ALL OTHER WORK		
Brush & Roller	$ 17.55	9.65
Spray; Sandblast; Power Tools; Waterblast & Steam Cleaning	$ 18.55	9.65

ALL OTHER WORK - HIGH TIME PAY
Over 35 feet (up to 100 feet) - $1.00 above base wage
100 feet and over - $2.00 above base wage

DURING SPRAY PAINTING AND SANDBLASTING OPERATIONS, POT TENDERS SHALL RECEIVE THE SAME WAGE RATES AS THE SPRAY

PAINTER OR NOZZLE OPERATOR

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* PAIN0500-002 06/01/2014

CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON, GRAVES, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES:

	Rates	Fringes
Painters:		
Bridges	$ 26.55	11.85
All Other Work	$ 20.30	11.85

Waterblasting units with 3500 PSI and above - $.50 premium
Spraypainting and all abrasive blasting - $1.00 premium
Work 40 ft. and above ground level - $1.00 premium

PLUM0184-002 07/01/2013

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN and TRIGG COUNTIES

	Rates	Fringes
Plumber; Steamfitter	$ 33.11	14.83

PLUM0502-004 08/01/2013

ALLEN, BUTLER, EDMONSON, SIMPSON & WARREN

	Rates	Fringes
Plumber; Steamfitter	$ 32.00	17.17

PLUM0633-002 08/01/2013

DAVIESS, HANCOCK, HENDERSON, HOPKINS, LOGAN, MCLEAN, MUHLENBERG, OHIO, TODD, UNION & WEBSTER COUNTIES:

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 29.87	14.25

TEAM0089-003 03/30/2014

ALLEN, BUTLER, EDMONSON, LOGAN, SIMPSON & WARREN COUNTIES

	Rates	Fringes
Truck drivers:		
Zone 1:		
Group 1	$ 19.58	17.83
Group 2	$ 19.76	17.83

Group 3	$ 19.84	17.83
Group 4	$ 19.86	17.83

GROUP 1 - Greaser; Tire Changer

GROUP 2 - Truck Mechanic; Single Axle Dump; Flat Bed; All Terrain Vehicles when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors

GROUP 3 - Mixer All Types

GROUP 4 - Winch and A-Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker; Euclid and Other Heavy Earth Moving Equipment; Low Boy; Articulator Cat; Five Axle Vehicle

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TEAM0215-003 03/31/2013

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO & WEBSTER COUNTIES

	Rates	Fringes
TRUCK DRIVER		
Group 1	$ 20.93	16.85
Group 2	$ 21.16	16.85
Group 3	$ 21.23	16.85
Group 4	$ 21.24	16.85

GROUP 1: Greaser, Tire Changer

GROUP 2: Truck Mechanic

GROUP 3: Single Axle Dump; Flat Bed; All Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors; Mixer All Types

GROUP 4: Euclid and other heavy earth moving equipment; Low Boy; Articulator Cat; 5 Axle Vehicle; Winch and A- Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker

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TEAM0236-001 03/31/2013

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN,TODD & TRIGG COUNTIES

	Rates	Fringes
TRUCK DRIVER		
Group 1	$ 19.38	16.85

Group 2	$ 19.56	16.85
Group 3	$ 19.56	16.85
Group 4	$ 19.66	16.85
Group 5	$ 19.64	16.85

GROUP 1: Greaser, Tire Changer

GROUP 2: Truck Mechanic

GROUP 3: Single Axle Dump; Flat Bed; All Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Drivers of Distributors

GROUP 4: Euclid and other heavy earth moving equipment; Low Boy; Articulator Cat; Five Axle Vehicle; Winch and A-Frame when used in transporting materials; Ross Carrier

GROUP 5: Mixer All Types

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

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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

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

These rates are listed pursuant to the Kentucky Determination No. CR-14-I-HWY dated July 14, 2014.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Diana Castle Radcliffe, P.E.
Director, Division of Construction Procurement
Frankfort, Kentucky 40622

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
5.2%	6.9%

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. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 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. 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 ten (10) working days of award of any construction subcontract in excess of $10,000.00 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 of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609

4. As used in this Notice, and in the contract resulting from this solicitation, the **"covered area"** is McCracken County.

PART IV

INSURANCE

INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

1) Commercial General Liability-Occurrence form – not less than $2,000,000 General aggregate, $2,000,000 Products & Completed Aggregate, $1,000,000 Personal & Advertising, $1,000,000 each occurrence.

2) Automobile Liability- $1,000,000 per accident

3) Employers Liability:

   a) $100,000 Each Accident Bodily Injury
   b) $500,000 Policy limit Bodily Injury by Disease
   c) $100,000 Each Employee Bodily Injury by Disease

4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
   a) "policy contains no deductible clauses."
   b) "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."

5) KENTUCKY WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART V

BID ITEMS

PROPOSAL BID ITEMS

151006

Page 1 of 5

Report Date 1/28/15

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	10,637.00	TON		$	
0020	00008		CEMENT STABILIZED ROADBED	30,607.00	SQYD		$	
0030	00358		ASPHALT CURING SEAL	31.00	TON		$	
0040	02071		JPC PAVEMENT-11 IN	29,962.00	SQYD		$	
0050	02091		REMOVE PAVEMENT	29,962.00	SQYD		$	
0060	02200		ROADWAY EXCAVATION	9,572.00	CUYD		$	
0070	02542		CEMENT	596.00	TON		$	
0080	02702		SAND FOR BLOTTER	77.00	TON		$	
0090	20430ED		SAW CUT	110.00	LF		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0100	01812		REMOVE CURB AND GUTTER	8,663.00	LF		$	
0110	01830		STANDARD INTEGRAL CURB	8,663.00	LF		$	
0120	02014		BARRICADE-TYPE III	104.00	EACH		$	
0130	02101		CEM CONC ENT PAVEMENT-8 IN	4,451.00	SQYD		$	
0140	02562		TEMPORARY SIGNS	2,040.00	SQFT		$	
0150	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0160	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		$	
0170	02720		SIDEWALK-4 IN CONCRETE	6,147.00	SQYD		$	
0180	02726		STAKING	1.00	LS		$	
0190	02775		ARROW PANEL	4.00	EACH		$	
0200	04934		TEMP SIGNAL MULTI PHASE	1.00	EACH		$	
0210	05990		SODDING	4,332.00	SQYD		$	
0220	06510		PAVE STRIPING-TEMP PAINT-4 IN	5,934.00	LF		$	
0230	06514		PAVE STRIPING-PERM PAINT-4 IN	25,579.00	LF		$	
0240	06550		PAVE STRIPING-TEMP REM TAPE-W	5,934.00	LF		$	
0250	06562		PAVE MARKING-THERMO R 6 FT	8.00	EACH		$	
0260	06563		PAVE MARKING-R/R XBUCKS 16 IN	176.00	LF		$	
0270	06566		PAVE MARKING-THERMO X-WALK-12 IN	679.00	LF		$	
0280	06568		PAVE MARKING-THERMO STOP BAR-24IN	357.00	LF		$	
0290	06575		PAVE MARKING-THERMO COMB ARROW	12.00	EACH		$	
0300	06589		PAVEMENT MARKER TYPE V-MW	149.00	EACH		$	
0310	06591		PAVEMENT MARKER TYPE V-BY	140.00	EACH		$	
0320	10020NS		FUEL ADJUSTMENT	7,687.00	DOLL	$1.00	$	$7,687.00
0330	20099ES842		PAVE MARK TEMP PAINT STOP BAR	44.00	LF		$	
0340	21549EN		POTHOLE PATCHING	1,000.00	SQYD		$	
0350	22664EN		WATER BLASTING EXISTING STRIPE	212.00	LF		$	
0360	23158ES505		DETECTABLE WARNINGS	766.00	SQFT		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0370	00519		STORM SEWER PIPE-10 IN	55.00	LF		$	

PROPOSAL BID ITEMS

151006

Report Date 1/28/15

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0380	00520		STORM SEWER PIPE-12 IN	323.00	LF		$	
0390	00521		STORM SEWER PIPE-15 IN	821.00	LF		$	
0400	00522		STORM SEWER PIPE-18 IN	110.00	LF		$	
0410	00524		STORM SEWER PIPE-24 IN	47.00	LF		$	
0420	01455		CURB BOX INLET TYPE A TRAPPED	11.00	EACH		$	
0430	01456		CURB BOX INLET TYPE A	48.00	EACH		$	
0440	01544		DROP BOX INLET TYPE 11	1.00	EACH		$	
0450	02599		FABRIC-GEOTEXTILE TYPE IV	1,255.00	SQYD		$	
0460	23131ER701		PIPELINE VIDEO INSPECTION	3,356.00	LF		$	
0470	23143ED		KPDES PERMIT AND TEMP EROSION CONTROL	1.00	LS		$	

Section: 0004 - UTILITY- WATER AND SEWER RELOCATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0480	01093		DUCTILE IRON PIPE-6 IN	1,370.00	LF		$	
0490	01095		DUCTILE IRON PIPE-8 IN	70.00	LF		$	
0500	01097		DUCTILE IRON PIPE-10 IN	40.00	LF		$	
0510	01099		DUCTILE IRON PIPE-12 IN	820.00	LF		$	
0520	01103		DUCTILE IRON PIPE-16 IN	2,550.00	LF		$	
0530	02555		CONCRETE-CLASS B	66.00	CUYD		$	
0540	02606		FIRE HYDRANT	2.00	EACH		$	
0550	02690		SAFELOADING	322.00	CUYD		$	
0560	03360		COPPER PIPE-3/4 IN	1,940.00	LF		$	
0570	03361		COPPER PIPE-1 IN	350.00	LF		$	
0580	03362		COPPER PIPE-1 1/2 IN	55.00	LF		$	
0590	03363		COPPER PIPE-2 IN	105.00	LF		$	
0600	03423		REMOVE METER	4.00	EACH		$	
0610	03431		RELOCATE WATER METER	61.00	EACH		$	
0620	03434		REMOVE FIRE HYDRANT	16.00	EACH		$	
0630	03437		RECONNECT SERVICE	67.00	EACH		$	
0640	03526		GATE VALVE-6 IN	6.00	EACH		$	
0650	03528		GATE VALVE-8 IN	1.00	EACH		$	
0660	03530		GATE VALVE-10 IN	1.00	EACH		$	
0670	03532		GATE VALVE-12 IN	1.00	EACH		$	
0680	03536		GATE VALVE-16 IN	8.00	EACH		$	
0690	03538		BEND 11.25 DEG 6 IN	1.00	EACH		$	
0700	03541		BEND 11.25 DEG 12 IN	3.00	EACH		$	
0710	03543		BEND 11.25 DEG 16 IN	2.00	EACH		$	
0720	03545		BEND 22.50 DEG 6 IN	2.00	EACH		$	
0730	03546		BEND 22.50 DEG 8 IN	1.00	EACH		$	
0740	03551		TAPPING SLEEVE & VALVE	14.00	EACH		$	
0750	03552		BEND 22.50 DEG 16 IN	2.00	EACH		$	
0760	03554		BEND 45 DEG 6 IN	1.00	EACH		$	
0770	03555		BEND 45 DEG 10 IN	3.00	EACH		$	
0780	03556		BEND 45 DEG 12 IN	1.00	EACH		$	
0790	03558		BEND 45 DEG 16 IN	7.00	EACH		$	
0800	03560		BEND 90 DEG 6 IN	5.00	EACH		$	
0810	03562		BEND 90 DEG 12 IN	1.00	EACH		$	

PROPOSAL BID ITEMS

151006

Page 3 of 5

Report Date 1/28/15

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0820	03563		BEND 45 DEG 8 IN	2.00	EACH		$	
0830	03565		BEND 90 DEG 16 IN	3.00	EACH		$	
0840	03570		BEND 90 DEG 8 IN	2.00	EACH		$	
0850	05985		SEEDING AND PROTECTION	3,025.00	SQYD		$	
0860	08100		CONCRETE-CLASS A	270.00	CUYD		$	
0870	20084NN		CUT & CAP	5.00	EACH		$	
0880	20120EC		SOLID SLEEVE-6 IN	13.00	EACH		$	
0890	20123EC		SOLID SLEEVE-8 IN	4.00	EACH		$	
0900	20127EC		SOLID SLEEVE-12 IN	2.00	EACH		$	
0910	20130EC		SOLID SLEEVE-16 IN	3.00	EACH		$	
0920	20156EC		FIRE HYDRANT ASSEMBLY	11.00	EACH		$	
0930	20786ND		TEE AND BLOCK 16IN X 16 IN X 8 IN	2.00	EACH		$	
0940	20951ND		TAPPING SLEEVE AND VALVE-6IN X 6 IN	4.00	EACH		$	
0950	20961ND		PLUG-6 IN	1.00	EACH		$	
0960	20966ND		THRUST RESTRAINT GLAND-8 IN	15.00	EACH		$	
0970	20967ND		THRUST RESTRAINT GLAND-6 IN	51.00	EACH		$	
0980	21094ND		TEE 12 IN X 8 IN	1.00	EACH		$	
0990	21095ND		TEE 12 IN X 6 IN	2.00	EACH		$	
1000	21099ND		CAP 12 IN	2.00	EACH		$	
1010	21179ND		TAPPING SLEEVE & VALVE 12 X 12	1.00	EACH		$	
1020	21180ND		TAPPING SLEEVE & VALVE 8 X 8	1.00	EACH		$	
1030	22532NN		MANHOLE FRAME AND LID	42.00	EACH		$	
1040	22819NN		TEE AND BLOCK-16 X 16 X 12 IN	3.00	EACH		$	
1050	23093ND		PLUG-12 IN	1.00	EACH		$	
1060	23129ND		VALVE BOX AND LID	50.00	EACH		$	
1070	23308EC		WATER METER WITH BOX 5/8 IN X 3/4 IN METER SETTING	56.00	EACH		$	
1080	23308EC		WATER METER WITH BOX 1 IN METER SETTING W/5/8 IN METER	2.00	EACH		$	
1090	23308EC		WATER METER WITH BOX 2 IN METER SETTING W/2 IN METER	2.00	EACH		$	
1100	23308EC		WATER METER WITH BOX 2 IN METER SETTING W/1 IN METER	1.00	EACH		$	
1110	23311EC		SOLID SLEEVE-10 IN	2.00	EACH		$	
1120	23358EC		TEE-6 IN X 6 IN	1.00	EACH		$	
1130	23521EC		REDUCER-16 X 12 IN-INSTALL	1.00	EACH		$	
1140	23705EC		CUT-CAP AND BLOCK-6 IN	7.00	EACH		$	
1150	23708EC		CUT-CAP AND BLOCK-10 IN	2.00	EACH		$	
1160	23997EC		TEE-16 X 6 IN	3.00	EACH		$	
1170	24050EC		TEE AND BLOCK-12X12X10 IN	2.00	EACH		$	
1180	24446EC		ASPHALT PAVING	50.00	TON		$	
1190	24514ED		FOSTER ADAPTERS-12 IN	3.00	EACH		$	
1200	24563ED		METER BOX	53.00	EACH		$	
1210	24563ED		METER BOX	5.00	EACH		$	
1220	24563ED		METER BOX	3.00	EACH		$	
1230	24571EC		GASKET 16 IN	28.00	EACH		$	
1240	24571EC		GASKET 12 IN	2.00	EACH		$	
1250	24571EC		GASKET 8 IN	8.00	EACH		$	

PROPOSAL BID ITEMS

151006

Report Date 1/28/15

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1260	24571EC		GASKET 6 IN	26.00	EACH		$	
1270	24598EC		THRUST RESTRAINT GLAND 16 IN	48.00	EACH		$	
1280	24598EC		THRUST RESTRAINT GLAND 12 IN	19.00	EACH		$	
1290	24598EC		THRUST RESTRAINT GLAND 10 IN	10.00	EACH		$	
1300	24648EC		FOSTER ADAPTER 16 IN	19.00	EACH		$	
1310	24648EC		FOSTER ADAPTER 10 IN	2.00	EACH		$	
1320	24648EC		FOSTER ADAPTER 8 IN	6.00	EACH		$	
1330	24648EC		FOSTER ADAPTER 6 IN	22.00	EACH		$	
1340	24770EC		METER VAULT AND BYPASS ASSEMBLY 12 IN	1.00	LS		$	
1350	24771EC		SEWER LATERAL REPLACEMENT W/ CLEANOUT 6 IN SDR-21 PVC GRAVITY	19.00	EACH		$	
1360	24771EC		SEWER LATERAL REPLACEMENT W/ CLEANOUT 6 IN DR-35	21.00	EACH		$	
1370	24772EC		SEWER LATERAL REHABILITATION W/ CLEANOUT 6 IN CIPP	39.00	EACH		$	
1380	24773EC		METER SETTING 1 IN	5.00	EACH		$	
1390	24773EC		METER SETTING 1 1/2 IN	1.00	EACH		$	
1400	24774EC		MJ OFFSET FITTING 6 IN X 24 IN	2.00	EACH		$	

Section: 0005 - UTILITY-COORDINATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1410	20818ND		GAS UTILITY COORDINATION ATMOS	1.00	LS		$	
1420	24722EC		UTILITY RELOCATION & COORDINATION JSA	1.00	LS		$	

Section: 0006 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1430	04844		CABLE-NO. 14/5C	500.00	LF		$	
1440	04912		SIGNAL-3 SECTION 12 IN	6.00	EACH		$	
1450	04913		SIGNAL-4 SECTION 12 IN	16.00	EACH		$	
1460	20188NS835		INSTALL LED SIGNAL-3 SECTION	6.00	EACH		$	
1470	20266ES835		INSTALL LED SIGNAL- 4 SECTION	16.00	EACH		$	

PROPOSAL BID ITEMS

151006

Page 5 of 5

Report Date 1/28/15

Section: 0007 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1480	02568		MOBILIZATION	1.00	LS		$	
1490	02569		DEMOBILIZATION	1.00	LS		$	