CALL NO. 114

CONTRACT ID. 141501

OLDHAM COUNTY

FED/STATE PROJECT NUMBER STPM 5140 (038)

DESCRIPTION BALLARDSVILLE ROAD (KY 22)

WORK TYPE GRADE & DRAIN AND PAVEMENT ALTERNATES

PRIMARY COMPLETION DATE 5/15/2015

LETTING DATE: December 12,2014

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME December 12,2014. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 4%

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

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SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 05

CONTRACT ID - 141501

STPM 5140 (038)

COUNTY - OLDHAM

PCN - DE09300221401
STPM 5140 (038)

BALLARDSVILLE ROAD (KY 22) (MP 3.929) RECONSTRUCT KY 22 FROM KY 329B TO ABBOTT LANE INCLUDING THE TERMINI INTERSECTIONS OF KY 22 @ KY 329B AND KY 22 @ ABBOTT LANE ("BRIDGE HILL") (MP 5.320), A DISTANCE OF 01.60 MILES.GRADE & DRAIN AND PAVEMENT ALTERNATES SYP NO. 05-00304.15.

GEOGRAPHIC COORDINATES LATITUDE 38:19:51.00 LONGITUDE 85:26:59.00

COMPLETION DATE(S):

COMPLETED BY 05/15/2015 APPLIES TO ENTIRE PROJECT

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

ASPHALT MIXTURE

Unless otherwise noted, the Department estimates the rate of application for all asphalt mixtures to be 110 lbs/sy per inch of depth.

INCIDENTAL SURFACING

The Department has included in the quantities of asphalt mixtures established in the proposal estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, curve widening, ramp gores and tapers, and road and street approaches, as applicable. Pave these areas to the limits as shown on Standard Drawing RPM-110-06 or as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, pave the crossroads to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. Surface or resurface these areas as directed by the Engineer. The Department will not measure placing and compacting for separate payment but shall be incidental to the Contract unit price for the asphalt mixtures.

JPC RIDE QUALITY

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

JPC PAVEMENT THICKNESS

Contrary to Sections 501.03.21, 501.05.01, 502.03, and 502.05, the Department will accept JPC Pavement and JPC Pavement 24/48/72 pavement thickness according to Special note for Acceptance of JPC Pavement Thickness [10T].

ASPHALT PAVEMENT RIDE QUALITY CATEGORY B

The Department will apply Pavement Rideability Requirements on this project in accordance with Section 410, Category B.

OPTION A

Be advised that the Department will accept compaction of asphalt mixtures furnished for driving lanes and ramps, at 1 inch (25mm) or greater, on this project according to OPTION A in accordance with Section 402 and Section 403 of the current Standard Specifications. The Department will require joint cores as described in Section 402.03.02 for surface mixtures only. The Department will accept compaction of all other asphalt mixtures according to OPTION B.

10/31/14

KY22 Reconstruction, Oldham County
Item Number: 05-304.15

SPECIAL NOTE
ALTERNATE PAVEMENT BID ADJUSTMENT

This project includes alternate bidding for asphalt or concrete pavement. There are specific items listed for each pavement type to be bid with the alternate selected by the Contractor. There is also a line item in the alternate categories for each alternate to adjust for the projected out-year life-cycle costs to the Cabinet. These line item adjustments are as follows:

Asphalt Pavement Adjustment = **$221,702**

Concrete Pavement Adjustment = **$141,591**

The amount reflective of the pavement type selected by each contractor will be added to their respective bid for comparison of the low bid. The adjustment ***shall be used only for determination of the lowest bidder*** *and* ***shall not be used to determine the final payment*** to the contractor when the project is completed.

Please note that these adjustments should not be used for the calculation of the maximum Mobilization amount and are not required to be included in the minimum Demobilization amount.

Proposal Guaranty

As a supplement to Section 102 of the Standard Specifications, it will not be necessary for the Proposal Guaranty to include an amount necessary to cover the amount of the bid adjustment.

SPECIAL NOTE FOR GUARDRAIL END TREATMENT TYPE 1

Contrary to KYTC Standard Drawing RBR-020-05 the guardrail end treatment ET-Plus manufactured by Trinity Industries will not be permitted as an option for bid item “Guardrail End Treatment Type 1”.

The specified completion date for this project is **May 15, 2016**. Contrary to Section 108.09 of the current edition of the KENTUCKY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. Liquidated Damages will be assessed at a rate of **$ 3,250** for each day beyond that date.

The Liquidated Damages will be charged after the completion date even when seasonal limitations of the contract, including winter months, prohibit the contractor from working on a controlling item of operation.

Special Note for Bridge Demolition, Renovation and Asbestos Abatement

If the project includes any bridge demolition or renovation, the successful bidder is required to notify Kentucky Division for Air Quality (KDAQ) via filing of form (DEP 7036) a minimum of 10 days prior to commencement of any bridge demolition or renovation work.

Any available information regarding possible asbestos containing materials (ACM) on or within bridges to be affected by the project has been included in the bid documents. These are to be included with the Contractor's notification filed with the KDAQ. If not included in the bid documents, the Department will provide that information to the successful bidder for inclusion in the KDAQ notice as soon as possible. If there are no documents stating otherwise, the bidders should assume there are no asbestos containing materials that will in any way affect the work.

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

Memorandum

To: Robert Hoagland

CC: Tim Foreman

From: O'Dail Lawson
Environmental Scientist II
Division of Environmental Analysis

Date: 11/14/2014

Re: Asbestos Inspection Report for Oldham 5-304.15

This report is prepared to accompany the 10-Day NOI for Demolition to the Division of Air Quality. Please include all pages with submittal.

Project and Structure Information

County: Oldham

Bridge #093B00006N

Description: The concrete samples collected were negative for asbestos. The guard rail mastic and joint compound were point counted below 1% ACM. No abatement necessary.

Inspection Date: November 10th, 2014 by Craig J. Craig.

Results

The results revealed that there is no ACM abatement required at this time.

Kentucky UNBRIDLED SPIRIT

An Equal Opportunity Employer M/F/D

MRS, INC. *MRS, Inc. Analytical Laboratory Division*

332 West Broadway, Suite 613
Louisville, Kentucky 40202

(502) 495-1212
Fax: (502) 491-7111

BULK SAMPLE ASBESTOS ANALYSIS

Analysis N # 2411138 A
Client Name: KYTC
Sampled By: Craig J Craig

Address: # B 093B00006N / 5-304.15
KY 22 Over Currys Fork

				% FIBROUS ASBESTOS				% NON-ASBESTOS FIBERS			
Number	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.
# 1	Gray	Yes	No				None				100%
# 2	Gray	Yes	No				None				100%
# 3	Gray	Yes	No				None				100%
# 4	Gray	Yes	No				None				100%
# 5	Black	Yes	No	3%	(To Be	Point Counted)		2%			95%

Methodology : EPA Method 600/R-93-116
Date Analyzed : 13-Nov-14
Analyst : Winterford Mensah

Reviewed By: Winterford Mensah
Signature

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

AIHA # 102459

AJHA #1 02459

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Louisville, Kentucky 40202

(502) 495-1212
Fax: (502) 491-7111

Client:	KY Transportation Cabinet	**Project No:**	2411138 B
Address:	200 Mero Street	**Sample ID:**	# 5
	Frankfort, KY	**Sampled:**	10-Nov-14
	40601	**Received:**	10-Nov-14
	Attention : Craig J Craig &	**Analyzed:**	13-Nov-14 - Point Count -
	O'Dail Lawson		

Bulk Sample Analysis

Sampled by: O'Dail Lawson

Facility/Location: B093B00006N 5-304.15 KY 22 Over Curry Fork

Field Description: Joint Compound

Laboratory Description:

Thick Black Material

Asbestos Materials:

Chrysotile = 2/400 = 0.50 % (< 1 %) Sample Is Negative

Non-asbestos Fibrous Materials & Matrix Materials:

Cellulose	0.25 %
Binders	99.25 %

Remarks: **The sample was analyzed for asbestos content following the EPA Methodology (600/R-93/116). The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government.**

Analyst: Winterford Mensah

Reviewed By: Winterford Mensah
Signature

AIHA #102459 / **AIHA #102459** / **AIHA #102459**

Chain of Custody Record

Kentucky Transportation Cabinet
200 Mero Street, 5th Floor West
Frankfort, Kentucky 40622
(502) 564-7250 fax (502) 564-5655

KENTUCKY TRANSPORTATION CABINET

O'Dail Lawson o'dail.lawson@ky.gov
KYTC
Address: 200 Mero Street
Frankfort KY
Phone: 502-564-7250 Fax: 502-564-5655
PO#:

Client Information KY TRANS CABINET
Results Code:
ND = None Detected
FTD = Filter Tampering or Damaged
N/A = Not Applicable

Samplers (signature): [signature]

Project or Subject Reference
B093BC00CLN 5-304.15 KY 22 over Curry's Fork

Sample ID	Sample Description	Collected Date	Collected Time	Analysis Requested	Grab/ Comp.	No. of Cont.	Cont. Type	Preservative
1	Pier	11/10	1:20	asbestos	Gr	1		N/A
2	span	↓	↓	↓	↓	↓		
3	abutment							
4	deck							
5	joint compound	↓	↓	↓	↓	↓		

Relinquished By: [signature] Date/Time: 11/10/14 2:00
Received By: [signature] Date/Time: 11/10/14
Relinquished By: Date/Time:
Received at Lab By: Date/Time:

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: November 21, 2014

Project Name: Ballardsville/Crestwood KY 22 Letting Date: October 24, 2014

Project #: JL03 093 5941501R County: OLDHAM

Item #: 5-304.15 Federal #:

Description of Project: Road improvement on KY 22

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	Ron Geveden Printed Name	Ron Geveden Signature	Right-of-Way Supervisor
Approved	Printed Name	Signature	21 NOV 2011 KYTC, Director of ROW &Utilities
Approved	Printed Name	Signature	FHWA, ROW Officer (when applicable)

Right-of-Way Certification Form

Revised 2/22/11

Date: November 21, 2014

Project Name: Ballardsville/Crestwood KY 22
Project #:
Item #: 5-304.15
Letting Date: October 24, 2014

County: OLDHAM
Federal #: N/A

This project has 36 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.

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

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

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

20 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)*

____ 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
		SEE ATTACHEMENT	

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

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RECONSTRUCT KY-22 from KY-329B to ABBOT LANE
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GENERAL PROJECT NOTE ON UTILITY PROTECTION

Utility coordination efforts determined that no 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

LG&E (electric), LG&E (gas), AT&T KY, Time Warner Communication, Louisville Water Company, Oldham County Water District, Texas Gas have facilities that require relocation. Please see the notes below pertaining to their relocations.

LG&E (Electric) – has existing overhead facilities throughout the entire project limits.
Overhead line runs parallel on the north side of existing KY 22 with utility poles located at Sta. 83+79 54L, Sta. 85+29 64L, Sta. 88+45 45L, Sta. 90+60 2L, Sta. 93+06 42R, Sta. 95+54 51R, Sta. 97+23 50R, Sta. 98+78 51R, Sta. 100+37 62R, Sta. 101+98 72R, Sta. 105+14 63R, Sta. 105+49 120R, Sta. 121+41 120 R, Sta. 123+29 46R, Sta. 125+60 43L, Sta. 128+01 42L, Sta. 130+68 42L, Sta. 132+65 42L, Sta. 134+76 42L, Sta. 136+84 43L, Sta. 143+62 41L, Sta. 146+00 43L, Sta. 146+85 44L, Sta. 148+37 43L, Sta. 150+71 22L, Sta. 152+40 25L, Sta. 153+76 24L. Has an existing aerial route on the east side of existing Abbott Lane with utility poles located at Sta. 52+14 18L, Sta. 54+14 21L.
These facilities will be removed or relocated by LG&E or their contractors.

LG&E (Gas) – has an existing 4-inch high pressure line on the north side of KY 22 from a point outside of project limits to approximately Sta. 102+00 150R and out of project limits. An existing 4-inch medium pressure line runs along KY 22 from approximately Sta. 125+00 20L and continues past Sta. 154+04.
These facilities will be removed or relocated by LG&E or their contractors.

AT&T KY – has existing overhead and underground facilities throughout the entire project limits.
These facilities will be removed or relocated by AT&T KY or their contractors.

Time Warner Communications – has existing overhead facilities throughout the entire project limits.
These facilities will be removed or relocated by Time Warner Communications or their contractors.

Texas Gas – has two existing 26-inch gas transmission lines crossing under KY 22 from Sta. 140+35 45R to Sta. 141+49 42L and from Sta. 141+20 42R to Sta. 142+32 42R. **These facilities will be removed or relocated by Texas Gas or their contractors.**

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

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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

LG&E (Electric) – has proposed overhead facilities throughout the entire project limits. A proposed overhead route will begin at Sta. 88+45 45L and will run parallel to proposed KY 22 to Sta. 98+46 51L where the line crosses over proposed KY 22 to Sta. 100+01 62R. From this utility pole the line continues off the project limits following existing KY 22. A proposed overhead route will cross proposed KY 22 from Sta. 115+74 50R to an existing utility pole at Sta. 115+60 120L. A proposed overhead route will begin at Sta. 123+29 46R crossing proposed KY 22 to Sta. 125+60 60L and continue to an existing utility pole at Sta. 128+01 42L. At Sta. 130+68 42L a proposed route will cross proposed KY 22 to Sta. 130+14 54R. An overhead route will begin at Sta. 145+98 70L and cross proposed KY 22 to Sta. 146+46 50R and continue running parallel to Abbott Lane to a utility pole at Sta. 55+08 24L. A proposed overhead route will begin at Sta. 148+37 43L and end at an existing utility pole out of project limits.

LG&E, AT&T KY, and Time Warner Cable share some of the same pole routes. The road contractor shall be aware that there are a number of LG&E poles that shall remain or which are expected to be installed prior to the start of the roadway work. Existing poles will be removed once **all** facilities have been transferred to new poles. **This work is anticipated to be completed by March 31, 2015.**

LG&E (Gas) – has a proposed 6" medium pressure line that will tie-in to an existing 6" medium pressure line outside of project limits and will continue to a proposed gas regulator on the west side of Old Lagrange Road. From the proposed regulator, a proposed 4" high pressure line will travel south approximately 33' to a bend crossing under Old Lagrange Road to Sta. 71+82 21L where it will bend and tie-in to a proposed 8" high pressure line at Sta. 71+82 48L. A proposed 8" high pressure line will begin at Sta. 71+82 21L and continue to Sta. 152+00 45L while following 3' inside the existing and proposed R/W. A proposed 4" high pressure line will tie-in to the proposed 8" high pressure line at Sta. 152+00 45L crossing under proposed KY 22 to Sta. 152+00 13R where it will tie-in to the existing 4" gas line. **This work is anticipated to be completed by May 31, 2015.**

Texas Gas – will have proposed work to be clear of the project. T**his work is anticipated to be**

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completed by June 1, 2015.

AT&T KY – will have proposed work to be clear of the project. T**his work is anticipated to be completed by September 30, 2015.**

Time Warner – will have proposed work to be clear of the project. T**his work is anticipated to be completed by October 31, 2015.**

(NOTE: Use the following Text Only If Applicable)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 LG&E (Electric), LG&E (Gas), AT&T KY, Time Warner Communications, and Texas Gas. Working days will not be charged for those days on which work on LG&E (Electric), LG&E (Gas), AT&T KY, Time Warner Communications, and Texas Gas 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. .

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

Louisville Water Company – has an existing 6" UCI water main on the south side of proposed KY 22 from Sta. 70+00 25R to Sta. 86+00 25L that will be abandoned. As part of the roadway project the existing main will be replaced by the contractor as part of the roadway project as shown on the relocation plans. A proposed 12" DPW will tie-in to the existing 6" water main at approximately Sta. 70+20 25R. From the tie-in the proposed 12" DPW goes to approximately Sta. 70+35 25R to a 45° bend to approximately Sta. 70+45 40R and continues to approximately Sta. 76+25 40R. At this point, a proposed 12" DPW restrained joint will tie-in and cross proposed KY 22 to approximately Sta. 76+25 40L which will then make a 45° bend and tie-in to an existing 12" DIW at approximately Sta. 76+15 55L.

From approximately Sta. 76+25 40R, a proposed 6" DPW will tie-in to the proposed 12" DPW and continue running parallel to proposed KY 22 to approximately Sta. 86+00 20R.

See the plans, specifications and special notes concerning the relocations.

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Oldham County Water District- has an existing 3" PVC water main on the south side of proposed KY 22 from Sta. 125+30 25R to Sta. 146+30 25R that will be abandoned; has an existing 4" PVC water main on the south side of proposed KY 22 from Sta. 146+30 25R to Sta. 153+94 35R that will be abandoned; has an existing 6" PVC water main on the north side of proposed KY 22 from approximately Sta. 143+00 72R to Sta. 153+00 82L that will be abandoned; has an existing 10" PVC water main on the south side of proposed KY 22 from approximately Sta. 145+00 66R to approximately Sta. 153+70 95R that will be abandoned. As part of the roadway project the existing main will be replaced by the contractor as part of the roadway project as shown on the relocation plans. A proposed 3" PVC will begin with a 3" post hydrant assembly at approximately Sta. 125+30 47R and will follow 8 feet inside proposed R/W to approximately Sta. 128+00 50R. From this point, the proposed 3" PVC will go to approximately Sta. 128+29 40R and continue running parallel to proposed KY 22 until approximately Sta. 136+09 50R. The proposed 3" water main will then have a bend to keep a minimum clearance of 10 feet from the existing Heritage Hills entrance sign and go to approximately Sta. 136+42 85R. At Sta. 136+49 85R, there will be a 3"x8" reducer. From this point, a proposed 8" PVC water main will continue to approximately Sta. 137+22 85R to a bend. The proposed 8" PVC will continue to approximately Sta. 137+64 47R where the water main will continue running parallel to proposed KY 22 to approximately Sta. 145+00 66R and tie-in to an existing 8" water main.

At Sta. 144+94 86R a proposed 8" PVC will tie-in to an existing 8" water main and will continue to approximately Sta. 146+26 103R to a 12"x12"x8" reducer. From this point, a proposed 12" PVC water main goes to approximately Sta. 146+42 45R to a bend and continues running parallel on the southside of proposed KY 22 to approximately Sta. 153+94 35R. At Sta. 153+00 45R a proposed 6" PVC water main will tie-in to the proposed 12" PVC and cross under KY 22 to Sta. 153+00 82L where the proposed 6" PVC will tie-in to an existing 6" PVC.

On Abbott Lane at approximately Sta. 51+00 40L, a proposed 6" PVC water main will tie-in to the proposed 12" PVC water main and continues running parallel to Abbott Lane to Sta. 54+35 30L.

See the plans, specifications and special notes concerning the relocations.

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SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project 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

SPECIAL NOTES FOR UTILITY CLEARANCE

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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.

AREA UTILITIES CONTACT LIST

1. LG&E KU (Electric)
820 West Broadway
Louisville, KY 40202
LG&E Emergency Number (502) 589-1444
LG&E and KU Emergency Number 1-800-331-7370

Greg Geiser
work: (502) 627-3708
Greg.Geiser@LGE-KU.com

2. LG&E (Gas)
820 West Broadway
Louisville, KY 40202
Gas Emergency Number (502) 589-5511
LG&E and KU Emergency Number 1-800-331-7370

Greg Geiser
work: (502) 627-3708
Greg.Geiser@LGE-KU.com

3. Louisville Water Company
550 South Third Street
Louisville, KY 40202

Daniel Tegene, PE
(502) 569-3649
DTegene@LWCky.com

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4. AT&T KY
3719 Bardstown Road - 2nd Floor
Louisville, KY 40218

Morgan Herndon
MH0831@att.com
(502) 458-7312

5. Oldham County Water District
3711 W. Highway 146, P.O. Box 51
Buckner, KY 40010
This company is not a BUD participant

Russ Rose
rrose@oldhamcountywater.com
office: (502) 222-1690
cell: (502)727-4350
Bill Baker
cell: (502)773-1572

6. LaGrange Utilities Commission
203 S. Walnut St.
LaGrange, KY 40031

Ted Chisholm
tedchis@gmail.com
(502) 222-9325

7. Mid - Valley Pipeline Company
4910 Limaburg Road
Burlington, KY 41005
FAX (866) 699-1185

Todd Calfee
(859) 371-4469x14
Cell:859-630-8271
RTCALFEE@SunocoLogistics.com

8. Shelby Energy Cooperative
P.O. Box 311, 620 Old Finchville Road
Shelbyville, KY 40065
(502) 633-4420

Jason Ginn
Jason@ShelbyEnergy.com
cell: 502-643-2778

9. Texas Gas Transmission, LLC
~~3800 Frederica Street~~
~~Owensboro, KY 42302~~

10327 Gaslight Way
Louisville, KY 40299

~~Tim Turner~~
~~(270) 688-6461~~
~~Tim.Turner@bwpmlp.com~~
~~Cell: (270) 485-1152~~
John Weaver
John.Weaver@BWPMLP.com
(502)438-2407
Howard Menser
Howard.Menser@BWPMLP.com
Office: (502)491-0251
Cell: (502)396-2418

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10. Time Warner Communications
4701 Commerce Crossings Dr.
Louisville, KY 40229

Deno Barbour
Cell: (502) 664-7395
Office(502) 357-4376
Dwight.Barbour@TWCable.com

11. Oldham Co. Environmental Authority
700 W. Jefferson St.
LaGrange, KY 40031
Fax: (502) 225-9468
(Sewer & Stormwater merged)
This company is not a BUD participant

Kevin Gibson
Kevin.Gibson@VeoliaWaterNA.com
Office: (502) 225-9477
Cell: (502) 269-1309

12. Metropolitan Sewer District
700 West Liberty Street

Louisville, KY 40202
Send to both contacts

Brad Selch
Brad.Selch@LouisvilleMSD.org

Brandon Flaherty
(502) 540-6632
Brandon.flaherty@LouisvilleMSD.org

13. Level 3 Communications (Transmission)
848 S. 8th St.
Louisville, KY 40203

~~Kevin Webster~~
~~Kevin.Webster@Level3.com~~
~~Office (502) 777-8622~~
~~Cell (502) 777-8622~~
~~Fax (502) 561-6950~~

Level 3 Communications (Transmission)
848 S. 8th St.
Louisville, KY 40203

~~Tim Morphew~~
~~Tim.Morphew@Level3.com~~
~~Office (502) 561-6935~~
~~Cell (502) 221-1785~~
~~Fax (502) 561-6950~~

Level 3 Communications (Distribution)
962 South Third Street
Louisville, KY 40203

~~Mark Sewell~~
~~Mark.Sewell@Level3.com~~
~~Office (502) 515-9142~~
~~Cell (502) 295-0939~~

Relocations

Level3.networkrelocations@level3.com
Send to Relocations Email

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14. Indiana Gas Company Inc
d.b.a. Vectren Energy Delivery of Indiana, Inc
or
Ohio River Pipeline Corporation
2520 Lincoln Drive
Clarksville, Indiana 47129

Mary Barber
MBarber@Vectren.com
(812) 948-4952

Line Maintained By
Texas Gas Transmission, LLC
3800 Frederica Street
Owensboro, Kentucky 42302
Cell: (270) 485-1152

Tim Turner
(270) 688-6461
Tim.Turner@bwpmlp.com

15. Crown Castle Network Operations
10170 Linn Station Road
Suite 525
Louisville, KY 40223
(builds cell towers and leases space on them)

Brian Watkins
Brian.Watkins@CrownCastle.com
(502)318-1323
Brandy Bowling (Brian's supervisor)
Brandy.Bowling@CrownCastle.com
(502)318-1322
Chris Gladstone
Chris.Gladstone@CrownCastle.com
(502)689-2162

16. Kentucky Data Link (KDL now Windstream)
Project Manager
3701 Communications Way
Evansville, IN 47715
(Address envelopes ATTN LaDon Haley)

John McDowell
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SPECIAL NOTES FOR UTILITY CLEARANCE

IMPACT ON CONSTRUCTION

OLDHAM COUNTY
JL03 093 59415 01U
RECONSTRUCT KY-22 from KY-329B to ABBOT LANE
ITEM NUMBER 5-304.15

Railroad Companies

1.

C.S.X. Transportation, Inc.
Contacts:
David Hall, KY Liaison, (502) 815-1865
Milton Holder – crossings – cell (502) 817-2011
John Williams – crossings – cell (502) 376-8745, Office (502) 364-1133
Joe Malandruco (Florida) – signals (904) 245-1160

SUPPLEMENTARY SPECIFICATIONS

KY 22 Reconstruction (Bridge Hill)
- WATER MAIN RELOCATION PROJECT
LWC PROJECT 14162

PROJECT LIMITS

Limits of the referenced project include **KY Highway 22 from Old Lagrange Road to 5703 KY Highway 22.**

PROJECT SUMMARY

The referenced project consists of the supply and installation of 625 +/- linear feet of 12-inch Pressure Class 350 ductile iron water main, 90 +/- linear feet of 12-inch restrained joint ductile iron water main, 965 +/- linear feet of 6-inch Pressure Class 350 ductile iron water main and 60 +/- linear feet of 24-inch steel casing pipe including valves, fittings and tie-ins to existing water mains.
This project is "Supply and Install" and all pipe, casing pipe and fittings shall be supplied by the contractor. All materials supplied by the contractor shall comply with the Buy America requirments. (Fire Hydrants and copper tubing will be supplied by the Louisville Water Company)

SCOPE OF WORK

If there are any conflicts between the water main specification and other utilities specifications regarding design or construction, then the Louisville Water Company current Technical Specifications take precedence.

MATERIALS FURNISHED BY CONTRACTOR

Materials furnished & installed by the CONTRACTOR include but not limited to the following:

A. 12-inch Pressure Class 350 ductile iron non-restrained joint water main
B. 12-inch Pressure Class 350 ductile iron restrained joint water main
C. 6-inch Pressure Class 350 ductile iron non-restrained joint water main
D. 12" Gate Valves (Right-hand open)
E. 6" Gate Valves (Right-hand open)
F. 24-inch Steel Casing Pipe (0.5 inches thick)
G. 12" Plugs
H. 6" Plugs
I. 12" – 45 degree Bends
J. 6"—45 degree Bends
K. 12" x 12" Tees
L. 12" x 6" anchor tee, 6" x 6" anchor tee, 6" Gate Valves

M. 12” x 6” Reducer
N. Polywrap for all Ductile Iron Pipe
O. Liquid Chlorine (12.5% Sodium Hypochlorite)
P. Concrete, Asphalt, steel reinforcement & anchors , and joint sealer/filler
Q. All EPSC measures
R. Seed and Straw
S. Bedding and backfill material

GENERAL INFORMATION

All water main work shall be installed by a Louisville Water Company Prequalified Contractor in the category of 4-inch to 16-inch ductile iron water main. For more information on pre-qualification requirements, contact Procurement Services of the Louisville Water Company at 569-3600.

The Contractor is to supply and install the ductile iron water main and all other water main appurtenances. The pipe and fittings shall be inspected by the LWC Inspector prior to installation and any defective pipe shall immediately be removed from the job site.

Rock shall be removed using mechanical methods (backhoe, hoe ram, or rock trenching machine). Blasting shall not be permitted unless approved by the Kentucky Transportation Cabinet.

GATE VALVES

In accordance with Section 1.1 of the Technical Specifications, existing valves shall be located and inspected by the contractor prior to the start of the project, and appropriate action taken to correct the problem(s) prior to start of the construction work. Except in cases of emergency, the Contractor shall not operate any valve without direct supervision of the LWC Project Manager or Inspector.

TRAFFIC CONTROL

Traffic control shall be provided by the Contractor in accordance with the Kentucky Transportation Cabinet specifications.

WORK SCHEDULE

Work hours shall be per the Kentucky Transportation Cabinet roadway contract documents

The Contractor shall anticipate the need to work on weekends and nights to complete tie-ins and service transfers involving shut-offs. All such work will be considered incidental to the project and no additional compensation will be provided. As with holidays and any work planned for weekends, this shall be pre-approved by the LWC Project Manager and coordinated with the KYTC Resident Engineer.

In the case of an emergency, the Contractor shall immediately notify the LWC Construction Inspector, Radio Room, and Customer Service along with the KYTC Resident Engineer and/or the KYTC Inspector. Prior to the actual shut-off, the contractor shall contact each customer (door-to-door) to alert customers of the emergency situation and the need to shut-off the main.

PIPELINE CONSTRUCTION

Unless otherwise indicated on the project drawings or modified by these supplementary specifications, all applicable provisions of the “Louisville Water Company Technical Specifications and Standard Drawings for Pipeline Construction" (2008 Edition) shall govern work on this project.

Prior to the start of any water main work at the site, the Contractor and the LWC Construction Inspector along with the KYTC Resident Engineer and the KYTC Inspector shall review the proposed pipeline alignment with respect to the locations marked by BUD and other existing site improvements.

Field modifications to the proposed pipeline alignment may be necessary to avoid or minimize the effects of potential conflicts. To avoid potential conflicts with existing utilities located perpendicular and/or parallel to the proposed main, the Contractor shall anticipate the need to use offsets, bends and fittings when installing the new main, and for large service connections. All such alignment change requires LWC Project Manager and KYTC Resident Engineer prior approval.

Standard burial depth for new water mains is 42 inches, as measured from the top of the finished ground to the top of the newly installed pipe. Situations requiring a depth of burial outside the standard will require prior approval from the Louisville Water Company and the KYTC Resident Engineer.

The Contractor is cautioned that OSHA trench safety standards apply to all excavations.

Prior to completing tie-ins, the type, size and condition of the existing pipe shall be verified. When the existing pipe is other than indicated on the Project Plans, the Construction Inspector or LWC Project Manager shall be contacted immediately to assess the need for revising the tie-in location. All revisions are to be coordinated with the KYTC Resident Engineer and/or the KYTC Inspector. The Contractor shall be compensated in accordance with the supplementary unit prices for any additional pipeline installed to change the tie-in location.

INSPECTIONS

The Contractor shall notify the LWC Project Manager along with the KYTC Resident Engineer and/or the KYTC Inspector at least 48 hours prior to beginning water line work.

TRENCH CONSTRUCTION

Pipeline bedding and initial backfill shall consist of DGA, manufactured sand or pit-run sand; selected, placed, and compacted in accordance with Section 7 of the Technical Specifications.

When under *pavement (streets, driveways, and entrances)*, the final backfill material shall consist of DGA or pit-run sand placed to within 9-1/2 inches of the final grade elevation, followed by the placement of an 8-inch concrete cap and a 1-1/2 inch asphalt surface.

When under *sidewalks,* the final backfill may consist of on-site excavated material, provided the material is free of objectionable constituents such as large rock, asphalt, concrete, organic material and demolition debris. This backfill material shall be placed and compacted to the subgrade elevation, followed by the placement of a 6-inch layer of DGA and the concrete sidewalk. The surface of the DGA shall be level and free from surface depressions or potholes, and may serve as a temporary sidewalk until the concrete sidewalk is completed.

When under *grassed areas*, the final backfill may consist of on-site excavated material, provided the material is free of objectionable constituents such as large rock, asphalt, concrete, organic material, and demolition debris.

ACCEPTANCE TESTING

A chlorine injection system will be used to fill the new main. The LWC Construction Inspector will provide the equipment and materials (tablet or liquid) needed to inject the chlorine-based solution into the main. The Contractor shall assist the Inspector with the connection of hoses and the operation of valves.

EROSION PREVENTION SEDIMENT CONTROL MEASURES

An erosion control plan is required by MSD and/or Louisville Metro. An erosion control plan shall be prepared by the contractor and submitted to MSD for review and approval. The contractor is responsible for maintaining all erosion control measures within the project limits in accordance with the latest MSD, Louisville Metro and LWC specifications. The contractor is responsible for making all erosion control modifications within the project limits required by MSD, Louisville Metro and/or LWC at no additional cost to LWC. The contractor is responsible to rectify any disputes that may arise due to inadequate erosion control measures as determined by MSD and/or Louisville Metro.

As a minimum, erosion control features shall be provided at catch basins, headwalls and in small ditches where associated construction procedures may cause the transport of sediment into the storm drainage system. Silt Fence must be installed along the trench per MSD's standards. When soil is disturbed within grassy areas, erosion control protection shall also be provided at yard drains. Care will be required to minimize stockpiling or placing backfill or excavated materials on roadways.

SERVICE WORK

Contractor is responsible for obtaining all plumbing permits required for any service work. Prior to beginning service work, including the installation of in-line tees for large services, the Contractor shall make a thorough evaluation of each meter vault within the limits of the project. Discrepancies between the field conditions and the Project Plans shall be discussed with the Construction Inspector along with the KYTC Resident Engineer and/or the KYTC Inspector.

Copper couplings shall not be used under paved areas. In situations where the new main is located on the opposite side of the roadway from the existing main or where the existing main is located in the roadway, “long” service transfers shall be completed by advancing a new service line from the new main to the meter vault.

CUSTOMER SERVICES

Prior to beginning any work that requires a shut-down of the main or individual services, the work crew shall make a thorough evaluation of each service connection and meter vault within the limits of the shut-down. Discrepancies between the field conditions and the Project Plans shall be discussed with the Construction Inspector along with the KYTC Resident Engineer and/or the KYTC Inspector.

The contractor shall be responsible for making all connections to the distribution system and the individual customer services.

The type, size and condition of the existing customer service at the property line shall be verified before completing the service reconnection. Where lead is encountered at the property line and an existing property connection is not found, the service crew shall extend the service excavation up to three (3) feet behind the property line to remove additional lead and to search for an existing property connection. The service reconnection shall then be completed at the three-foot distance, or less, if an existing property connection is encountered.

The Contractor shall note that there may be critical customer services located within the limits of this project. Planned water outages affecting these services may require coordination with the effected customers. The Contractor shall provide to the Construction Inspector along with the KYTC Resident Engineer and/or the KYTC Inspector, a minimum two-week prior notice of planned water outages that effect large services (2-inch or larger) or critical customer services connected to medical facilities, schools, or day cares. The Contractor shall anticipate the need to schedule service work and tie-ins requiring planned water outages around the needs of these facilities.

New heavy frame and covers shall be used for meter vaults located in or relocated to paved areas or to areas subject to vehicular traffic.

POST CONSTRUCTION

All in-line and service valves installed and/or operated during the completion of this project shall be inspected after construction to verify that all valves used by the Contractor are left in the proper operating position. Unless otherwise noted, or directed, all gates shall be fully opened.

WARRANTIES

All pipeline work shall be warranted for two (2) years from the date of Final completion unless specified otherwise.

POLYETHYLENE ENCASEMENT SPECIFICATIONS

Polyethylene encasement shall consist of the following:

A. 8 mil thick (linear low density polyethylene tube type)

B. Conforming to the current AWWA Standard C105-05 shall be used with Ductile Iron Pipe only.

C. Marking requirements for polywrap are as outlined in AWWA C105-05. Polywrap without correct markings will be rejected.

D. Polyethylene adhesive tape must be compatible with polyethylene wrap and must be not be less than 5 mil thick.

E. **Polyethylene encasement shall be the COLOR BLUE**. Other colors will be rejected.

F. Contractor shall provide certificate of compliance for Polywrap.

DUCTILE IRON PIPE AND FITTINGS SPECIFICATIONS

SUBMITTALS

Shop drawings and manufacturer's literature for all CONTRACTOR supplied materials shall be promptly submitted to the LWC PROJECT MANAGER for approval.

The following items shall be submitted before delivery of ductile iron pipe or fittings:

1. Certification by the manufacturer or supplier that the pipe furnished for this project meets all pertinent AWWA Standards.

2. Catalog cuts and installation instructions for boltless restrained joint pipe and mechanical joint retainer glands.

3. Certification that all bolts to be furnished conform to referenced standards.

PIPE SUPPLIER

Ductile iron pipe and fittings shall be as manufactured by an LWC pre-qualified vendor. Approved LWC DIP vendors include US Pipe and Foundry, American Cast Iron Pipe Company, Griffin Pipe Co., and Clow Water Systems Company.

PIPE MATERIAL

Ductile iron pipe shall conform to the latest specifications as adopted by American National Standards Institute, Inc., (ANSI) and American Water Works Association (AWWA). Specifically, ductile iron pipe shall conform to ANSI/AWWA C151/A21.51.

The pipe shall be coated outside with a bituminous coating in accordance with ANSI/AWWA C151/A21.51. The pipe interior shall be lined with two layers of cement mortar and seal coated in compliance with the latest revision of ANSI/AWWA C104/A21.4.

The class of pipe to be furnished shall be pressure class 350.

Testing

Each length of pipe shall be subjected to a hydrostatic proof test as required by ANSI/AWWA C151/A21.51.

Joints

1. Mechanical and Push-On

   Mechanical and push-on joints including accessories shall conform to ANSI/AWWA C111/A21.11.

2. Restrained

   When restrained joints are required, they shall be boltless push-on type. Boltless restrained joints shall be either U.S. Pipe and Foundry "TR Flex", American Ductile Iron Pipe "Flex-Ring", or equal. Restrained joint pipe shall be furnished with a factory welded retaining ring. **The use of field installed retaining rings such as "Gripper Rings" and "Field Lock Gaskets" will be permitted for 12” and smaller ductile iron water main only.**

MARKING PIPE

Each pipe, fitting or special section shall have the following plainly marked thereon:

1. Pipe Class
2. Date of Manufacture
3. Manufacturer's name or trademark
4. On bends, the angle turned thereby
5. Manufacturer's identification number

INSTALLATION

A. Push-On Joints

The surfaces with which the rubber gasket comes in contact shall be thoroughly cleaned just prior to assembly. The gasket shall then be inserted into the groove in the bell. Before starting joint assembly, a liberal coating of special lubricant shall be applied to the gasket and the spigot end. With the spigot end centered in the bell, the spigot end is pushed home.

B. Mechanical Joints

All components shall be cleaned and lubricated with soapy water prior to assembly. Slip the follower gland and gasket over the pipe plain end making sure the small side of the gasket and lip of the gland face the bell socket. Insert the plain end into socket. Push gasket into position with fingers, gasket should be evenly seated.

Slide gland into position, insert bolts and tighten by hand. Bolts are then tightened alternately (across from one another) to the following normal torques:

Bolt Size	Torque Range (Foot-Pounds)
0.50"	40 - 60
0.75"	60 - 90
1"	70 - 100
1.25"	90 – 120

C. Restrained Joints

1. Push-On

Assemble and install the push-on joint according to the manufacturer's recommendations. The joint shall be thoroughly cleaned and lubricated. Check the retainer ring fastener.

During "pushing home" of any style piping, timber shall be placed between the jacking device (backhoe bucket, pipe jack, etc.) and the pipe being driven home.

VALVES AND APPURTENANCES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment, and incidentals required and install complete and ready for operation all gate valves and appurtenances as shown on the Project Drawings and as specified herein. Supplier shall design, manufacture, shop test, and deliver all valves and accessories, including actuators in strict accordance with American Water Works Association (AWWA) Standard C515-09, AWWA Standard For Resilient Seated Gate Valves

B. The equipment shall include but is not limited to the following:

1. Gate Valves

1.02 DESCRIPTION OF SYSTEMS

A. All of the equipment and materials specified herein is intended to be standard for use in controlling the flow of water.

1.03 QUALIFICATIONS

A. The gate valves shall be Iron body, Resilient Seat Gate Valve as manufactured by United States Pipe and Foundry Company, of Birmingham, Alabama; or American Flow Control Series 2500, or an approved equal. For proposed equals, the CONTRACTOR shall submit manufacturer's information and specifications to the LWC Project Manager, no later than 5 working days before the scheduled bid opening, for PRE-APPROVAL as an equal. All valves and appurtenances shall be of the size shown on the Project Drawings and as far as possible all equipment of the same type shall be from one manufacturer. All valves and appurtenances shall have the name of the maker, flow-directional arrows, and the working pressure for which they are designed cast in raised letters on some appropriate part of the body.

1.04 SUBMITTALS

A. Complete Shop Drawings of all valves and appurtenances shall be submitted to the LWC Project Manager for approval.

1.05 OPERATING INSTRUCTIONS

A. Manufacturer's operating and maintenance instructions shall be furnished to the LWC Project Manager for equipment furnished under this Section.

B. The valve manufacturer shall supply and integrally mount all valve operators at the factory. The valve and operators shall be shipped as a unit.

C. All valves shall open clockwise (to the right).

D. Valve operator shall be provided with enclosed bevel gearing to reduce the torque required to operate the valve. The maximum required input torque to the actuator shall not exceed 125 foot-pounds, and shall meet AWWA Class 150B maximum operating torque for the respective valve. The actuators shall be full gasket, suitably seal, grease-packed for life, and designed to withstand submersion in water to 10 psi.

E. The actuator shall be fitted with a 2-inch AWWA valve-operating nut, cast iron.

F. The number of turns shall not be less 3 times the valve diameter (inches) or more than 4 times the valve diameter to open or close the valve.

1.06 TOOLS

A. Special tools, if required for normal operation and maintenance shall be supplied with the equipment.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. General

1. All valves and appurtenances shall be of the size shown on the Drawings and as far as possible all equipment of the same type shall be from one manufacturer.

2. All valves and appurtenances shall have the name of the manufacturer, flow direction arrows, and the working pressure for which they are designed cast in raised letters upon some appropriate part of the body.

3. Except as otherwise shown on the Drawings or specified herein, all valves with operators located 6 feet or more above the operating floor shall be provided with chain wheel operators complete with chain guides and galvanized steel chain.

4. All valves shall open Right (clockwise).

2.02 PRODUCTS

A. Gate Valves

1. General Requirements.

   a. Unless otherwise specified below, these requirements shall apply to all gate valves.

   b. Gate valves shall meet the requirements of AWWA C500 and AWWA C515-09 as applicable to the type of valve specified.

   c. Exposed valves shall be furnished with Class 250 flanged ends; provide valves with outside screw and yoke.

   d. The valve body, bonnet and gate castings shall be constructed of ductile iron, and shall have full shell thickness according to AWWA C515-09, table 2, section 4.4.

   e. Except as otherwise specified, valves shall be rated for the following working water pressures:

Valve Size	Pressure (psig)
3-inch to 48-inch	250

   All valve bodies shall be hydrostatically tested to at least twice the rated working water pressure of 250psi. In addition, valves shall be seat-tested, bi-directional at the rated working pressure, with a bubble tight seal. Provide certificates of testing.

   f. Flanged valves to have face-to-face dimensions per ANSI C115.

   g. All bonnet and packing gland bolts shall be zinc or cadmium electroplated steel; packing gland bolts shall have bronze nuts.

   h. All valves shall be marked per AWWA Standards, including name of manufacturer, valve size and working pressure and year of manufacture.

   i. Resilient-seated gate valves shall conform in all respects to ANSI/AWWA C515-09 with non-rising stems, fully bronze mounted with O-ring seals. Valves shall be of standard manufacture and of the highest quality both as to materials and workmanship and shall conform to the latest revisions of AWWA Specification C-500. Valves shall have a rated working pressure of 250 psi, and test pressure of 500 psi and shall be opened by turning clockwise only.

j. Shall be designed for buried service where groundwater may completely submerge the valve and actuator. Gate valves shall be furnished with mechanical joint end connections with stainless steel hardware T-316, unless otherwise shown on the plans or specified herein. The end connections shall be suitable to receive ductile iron pipe. All gate valves shall be mechanically restrained to pipe utilizing a positive mechanical restraint such as American's Coupling Gland Ends, or equal, employing stainless steel 316 bolts and nuts. No friction type restraint such as Megalugs will be acceptable.

k. Shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working pressure cast on the body of the valve. The valve body shall be ductile iron

l. Shall be installed in a horizontal stem position, with actuator located in a manhole vault. (At the time of shop drawing review, the LWC Project Manager will advise which side of the valve the actuator will be located.)

m. Subjected to a non-shock shutoff pressure of as much as 150 psi in the event of an emergency closure.

n. Shall be used for potable water service with a temperature range of 34 degrees F to 85 degrees F and a pH range of 8.0 to 8.5

2. Valve Applications

   a. Valves for Potable Water Service.
   b. Gate Valves shall be resilient seated Metroseal manufactured by U.S. Pipe, or equal.

3. Valve Requirements

   a. Resilient Seated
      - Conform to AWWA C515-09.
      - Internal and external epoxy of valve body, including bonnet, per AWWA C550.
      - Gate shall be encapsulated with synthetic rubber. It shall be bonded and vulcanized in accordance with ASTM B429 Method B.
      - No recesses in valve body.
      - Valves shall be installed in the vertical position.

4. Buried Valves

   a. Conform to the requirements above, except mechanical joint bell ends per AWWA C111. All exposed valve hardware (nuts, bolts, washers,

etc.) including bonnet, bonnet cover, stuffing box, gear adaptor and joints shall be Type 316 stainless steel.

b. Non-rising stem design, double O-ring seals for non-geared valves and shall incorporate packing for geared valves.

c. Provide valve box, 2-inch operating nut and extension stem and stem cover, and tee handled valve wrenches.

PART 3: EXECUTION

3.01 INSTALLATION

A All valves and appurtenances shall be installed in the locations shown, true to alignment and rigidly supported. Any damage to the above items shall be repaired to the satisfaction of the LWC Project Manager before they are installed.

B After installation, all valves and appurtenances shall be tested at the same duration and pressure as the piping system they are in. If any joint proves to be defective, it shall be repaired to the satisfaction of the LWC Project Manager.

C Install all brackets, extension rods, guides, the various types of operators and appurtenances as shown on the Drawings that are in masonry floors or walls, and install concrete inserts for hangers and supports as soon as forms are erected and before concrete is poured. Before setting these items, the Contractor shall check all plans and figures which have a direct bearing on their location and he shall be responsible for the proper location of these valves and appurtenances during the construction of the structures.

D All materials shall be carefully inspected for defects in workmanship and materials; all debris and foreign material cleaned out of valve openings, etc.; all operating mechanisms operated to check their proper functioning, and all nuts and bolts checked for tightness. Valves and other equipment which do not operate easily, or are otherwise defective, shall be repaired or replaced at not additional cost.

E Unless otherwise specified or approved by the LWC Project Manager, all newly installed gate valves shall maintain a minimum 12” of cover as measured from the top of ground elevation to the top nut elevation.

F All valves and appurtenances shall be installed in the locations shown, true to alignment and rigidly supported. Any damage to these items shall be repaired or replaced to the satisfaction of the LWC Project Manager before they are installed.

G After installation, all valves and appurtenances shall be tested at least one (1) hour at the working pressure corresponding to the class of pipe, unless a different test pressure is specified. If any joint proves to be defective, it shall be repaired to the satisfaction of the LWC Project Manager.

H All materials shall be carefully inspected for defects in workmanship and materials; all debris and foreign material cleaned out of valve openings, etc.; all operating mechanisms operated to check their proper functioning; and all nuts and bolts checked for tightness. Valves and other equipment that do not operate easily, or are otherwise defective, shall be repaired or replaced at no additional cost to the OWNER.

3.02 SHOP PAINTING

A Interior surfaces of all valves except the exterior surfaces of buried valves and miscellaneous piping appurtenances shall be given a shop finish of an asphalt varnish conforming to Federal Specification TT-V51e for Varnish Asphalt.

B. The exterior surface of various parts of valves, operators, floorstands and miscellaneous piping shall be thoroughly cleaned of all scale, dirt, grease or other foreign matter and thereafter one shop coat of an approved rust-inhibitive primer such as Inertol Primer No. 621 shall be applied in accordance with the instructions of the paint manufacturer. Ferrous surfaces obviously not to be painted shall be given a shop coat of grease or other suitable rust-resistant coating.

C General - The finish coating materials shall be suitable for potable water service, and shall conform to the applicable requirements of the latest revision to AWWA C550, Protective Interior Coatings for Valves and Hydrants. All internal and external surfaces, except finished or bearing surfaces, shall be shop-cleaned and coat-applied in accordance with this Specification and with the applicable Steel Structure Painting Council (SSPC) Specifications. A light color shall be used to enhance inspection and maintenance.

D Surface Preparation - Surface irregularities, such as weld spatter, burrs, and sharp or rough edges, shall be eliminated prior to surface preparation. Surfaces shall be prepared in accordance with Steel Structures Painting Council Specifications SP-6, Commercial Blast Cleaning, with 1.5-3.0 mils profile depth. If grease or spills are present, solvent cleaning to SSPC SP-1 quality must precede SP-6.

E Paint System and Application - Coatings shall be applied in accordance with the recommendations found in SSPC PA-1, Shop, Field, and Maintenance Painting. The paint system shall be a two-coated catalyzed epoxy system for ferrous and non-ferrous metals subject to chemical corrosion or physical abrasion. The first coat shall be a high-build catalyzed epoxy with a minimum 50 percent solids applied by volume, applied at 6 - 8 mils (dry). The second coat shall be the same as the first coat. The system's total thickness shall be 12 mils (dry) minimum, and shall be holiday-free when tested in accordance with AWWA C550, using a holiday detector such as Tinker and Raser MI/AC.

3.03 INSPECTION AND TESTING

A. The various pipelines in which the valves and appurtenances are to be installed are specified to be field-tested. During these tests any defective valve or appurtenance shall be adjusted, removed and replaced, or otherwise made acceptable to the LWC Project Manager.

B. Valve and Actuator - The test program outlined in AWWA Specification C515-09 shall be followed for Performance, Leakage, and Hydraulic tests. Valves are to be tested in both directions. A copy of a previous proof-of-design test shall be acceptable. The Supplier shall submit an affidavit of compliance with testing and other provisions of AWWA C515-09. The Supplier shall send a certification of compliance of capabilities of the actuators furnish as a component of each unit.

C. Coating - The Supplier shall submit an affidavit of compliance, signifying that the coating and application complies with the requirements of AWWA C550 Protective Interior Coatings for Valves and Hydrants and Steel Structure Painting Council's Steel Structures Painting Manual, Volumes 1 and 2. Test data related to the requirements of Section 2 and the toxicological compatibility of the coating materials with potable water application shall be submitted along with the affidavit.

3.04 Flange Isolation Kits

Flange Isolation Kit Specification
Materials for flange isolation kits on pipes shall consist of the following components:

Isolating and Sealing Gasket
One full faced isolating and sealing gasket, LineBacker Type "E", 1/8" thick, G-10 retainer containing a precision tapered groove to accommodate the controlled compression of a Teflon (or Viton) quad-ring sealing element. Sealing element placement shall accommodate either flat, raised face or RTJ flanges. The quad-ring seal shall be pressure energized. The G-10 retainer shall have a 550 volts/mil dielectric strength and a minimum 50,000 psi compressive strength. The full faced flange isolating gasket shall be 1/8" less in I.D. than the I.D. of the flange in which it is installed.

Full Length Bolt Isolating Sleeves
One full length G-10 sleeve (extending half way into both steel washers) for each flange bolt. The G-10 shall be a 1/32 inch thick tube with a 400 volts/mil dielectric strength and water absorption of 0.10% or less.

Washers
Two, 1/8 inch thick, G-10 isolating washers for each bolt. Their compressive strength shall be 50,000 psi, dielectric strength 550 volts/mil and water absorption of 0.10% or less. Two, 1/8 inch thick zinc plated, hot rolled steel

washers for each bolt. The I.D. of all washers shall fit over the isolating sleeve and both the steel and isolating washers shall have a same I.D. and O.D.

CASING PIPE INSTALLATION

DESCRIPTION

The work to be performed under these specifications shall consist of furnishing and installing all materials and equipment and performing all labor required to install pipelines crossing under existing and proposed highways, railroads, and streets by boring, jacking, and tunneling, as specified herein. All bores will be accomplished by dry mechanical bore unless otherwise approved by the LWC Project Manager. All carrier pipes within the encasement conduit shall be restrained joint pipe of the type specified on the plans, Louisville Water Company Specifications and/or approved by the LWC Project Manager. **The carrier pipe shall be centered and restrained within the casing pipe.**

SUBMITTALS

The following items shall be submitted before delivery of casing pipe, spacers and end seals:

1. Submit manufacturer's "Certificate of Compliance" for casing pipe materials furnished.

2. Submit manufacturer's "Certificate of Compliance" for casing insulator and casing end seal materials furnished.

3. Submit welders' American Welders Society Certification.

CASING PIPE MATERIAL

A. The material shall conform to the chemical and mechanical requirements of the latest revision of ASTM A139 "Electric-Fusion (ARC) Welded Steel Pipe (NPS 4 and over), unless otherwise stated herein.

B. The pipe furnished shall be grade B. The steel shall be new and previously unused.

C. Hydrostatic testing shall not be necessary.

D. Pipe ends shall be beveled at one end (for field welding of circumferential joints) and shall be plain right angle cut at the other end. All burrs at the end of the pipe shall be removed.

E. The wall thickness at any point shall be within 12.5% of the thickness specified in the following table:

Outside Diameter	Nominal Metal Thickness

24.00” 0.50”

F. Circumference – The outside circumference of the pipe shall not vary more than + or – 1%, but not exceeding + or – ¾” from the nominal outside circumference.

G. Ovality (Out-of-Roundness) – The pipe diameter within 4.0 in. of ends, shall not vary more than 1% from the specified diameter.

H. Straightness – The pipe shall be straight to within ½ inch per length of pipe.

I. All ID obstructions (bead welds, slags, etc.) shall not extend more than 3/32” from the ID face.

J. Each length of pipe shall be legibly marked, stating: manufacturer, grade, diameter, wall thickness and primer.

K. A protective coating shall be applied to the inside and outside of each length of pipe. Following an SSPC SP-7 “Brush-Off Blast Cleaning” surface preparation, 3.0 dry mils of Tnemac Primar 100-99 (red), or of an approved equal, shall be applied in the manner recommended by the respective paint manufacturer.

QUALITY ASSURANCE

1. ALLOWABLE TOLERANCES

Where grades or elevations are shown on the plans for the pipeline to be installed by open trench, boring, jacking, and tunneling operations, maximum deviation of plan elevation shall be 0.1 foot. The maximum deviation of alignment over the length of the bore shall be 0.1 foot.

The Contractor shall have the line and grade of the casing pipe checked after each length of casing pipe is installed.

The LWC Project Manager shall determine the corrective action to be taken for tolerances above those stated in this specification.

2. JOINTS

Comply with American Welding Society (AWS) Code of Arc and Gas Welding in Building Construction. Fully weld all joints with full penetrating weld, including joints of casing pipes laid in open trench areas.

The inside welded joint shall be smooth, non-obstructing, and conform to all specifications as required by AWS. The casing pipe be installed without any vertical or horizontal bends

INSTALLATION

All casing pipe shall be installed per LWC Technical Specifications and Standard Drawings for Pipeline Construction section 6.3 Boring and Tunneling and LWC Standard Drawing 1500.

STAINLESS STEEL CASING SPACERS & END SEALS

SUBMITTALS

Shop drawings and manufacturer's literature for all Contractor supplied materials shall be promptly submitted to the LWC Project Manager for approval.

CASING SPACER SUPPLIER

Casing spacers and end seals shall me manufactured by an LWC Approved vendor.

Model CCS casing spacer and Model CCES end seals manufactured by Cascade Waterworks Manufacturing; Model SSI casing spacers and Model AC Pull-on end seals manufactured by Advances Products & Systems, Inc. or an approved may be utilized.

It is the responsibility of the contractor to ensure that the casing spacers sized appropriately for the carrier pipe.

MATERIAL SPECIFICATIONS

SHELL - minimum 14 gauge T 304 stainless steel.
All surfaces are fully chemically passivated.
Flanges are ribbed for strength.

RISERS - Minimum 10 ga. T-304 stainless steel, reinforced 6” and over height.

FASTENERS - 5/16-18” T 304 stainless steel

LINER - PVC - .090 thick, 85-90 durometer
(ASTM D1706-61T) - 80
Max constant operating temperature - 150F (64C)
Electrical properties - (ASTM - D149-61)
1380 V/min.

RUNNERS - Ultra high molecular weight polymer
Low coefficient of friction
High resistance to abrasion and sliding wear
Toughness under impact
Low deflection under compression
Dielectric insulation

Casing End Seals

Casing ends are to be closed by installing “casing end seals”. Casing end seals are made of a neoprene rubber with stainless steel bands used to secure the casing end seal to the casing pipe and the carrier pipe.

INSTALLATION

1. Casing spacers shall provide projections around the entire circumference of the carrier pipe.

2. The carrier pipe shall be centered and restrained within the casing pipe such that the height of the risers and runners are to center the carrier pipe in the casing pipe with a minimum top clearance of three-fourths inch minimum.

3. Casing spacers shall be in segments for field assembly, without the need for special tools.

4. Spacer segments shall be fastened securely around the carrier pipe and shall be secured by means other than adhesives.

5. Pipe shall not rest on bells.

GRW Engineers, Inc.

Engineering
Architecture
Planning
GIS
Aviation Consultants

Indianapolis, IN
Columbus, OH
Cincinnati, OH
Lexington, KY
Louisville, KY
Knoxville, TN
Nashville, TN
Saint Albans, WV
Buckhannon, WV

Contract Documents and Technical Specifications

engineering | architecture | geospatial

Oldham County Water District

KY 22 Reconstruction

Water Utility Relocation

La Grange, KY

KYTC Item No. 5-304.15
GRW Project No. 4215

November 2014

AS BID DOCUMENT

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DIVISION 01

GENERAL REQUIREMENTS

SECTION 012213 - BASIS OF MEASUREMENT AND PAYMENT - WATER

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

A. The Contractor shall furnish all necessary labor, machinery, tools, apparatus, equipment, materials, service and other necessary supplies and perform all Work shown on the Drawings and/or described in the Specifications and Contract Documents at the unit prices as indicated by the Bidder in the Bid.

B. The Bidder declares that he has examined the site of the Work and informed himself fully in regard to all conditions pertaining to the place where the Work is to be done; that he has examined the Plans, Specification and Contract Documents for the Work, and has read all special provisions furnished prior to the opening of bids; and that he has further satisfied himself relative to the Work to be performed. The Bidder further declares that he understands that unit quantities shown in the Proposal are approximately only, are subject to increase or decrease, and that, should the quantities of any of the items be decreased, the Bidder will make no claim for the anticipated profits. In addition, the Owner also reserves the right to adjust quantities, either by addition or deletion and as-BID unit price shall remain in effect for these quantity adjustments.

C. All excavation required of the work shall be done as part of the total price for the complete project. All excavation shall be <u>unclassified</u>.

1.2 PAY ITEMS

A. The items listed hereinafter refer to and are the same items listed in the PROPOSAL hereinbefore and constitute all of the pay items in this Contract. Any other items of Work listed in the Specifications or shown on the Drawings shall be considered incidental to the above items.

1.3 WATER MAIN

A. Payment for furnishing and installing the water main will be made at the contract unit price per linear foot, complete in place. The quantity of water main to be paid for shall be the length of the completed water main measured along the centerline without any deduction for lengths of fittings, valves or other appurtenances. This price shall include compensation for furnishing, hauling, removing and disposing of existing pavement, excavation (including rock), bedding, laying pipe, jointing, installation of tracer wire and locator boxes, backfilling, location tape, surface restoration (including concrete and asphalt pavement replacement), testing, disinfection, bacterial sampling, and cleanup. Installation and maintenance of any and all temporary erosion and sedimentation control devices and methods as described in the Contract Documents and as required by Local, State and Federal requirements are included under this pay item.

1.4 DUCTILE IRON MECHANICAL JOINT FITTINGS

A. Payment for furnishing and installing ductile iron mechanical joint fittings will be made at the contract unit price per ton, which price shall include hauling, removing and disposing of existing pavement, excavation (including rock), bedding, installation of ductile iron fitting, jointing, installation of “GripRing” restraints, installation of tracer wire, backfilling, location tape, surface restoration (including concrete and asphalt pavement replacement), testing, disinfection, bacterial sampling, and cleanup.

B. Concrete thrust blocks shall be paid for under a separate pay item.

1.5 GATE VALVES AND BOXES

A. Payment for furnishing and installing gate valves and cast iron valve boxes will be made at the contract unit price each, complete in place, which price shall include compensation for furnishing, hauling, excavation, installation of gate valve, jointing, installation of “GripRing” restraints, installation of tracer wire, cast iron valve box, backfilling, location tape, surface restoration (including concrete and asphalt pavement replacement), testing, disinfection, bacterial sampling, and cleanup.

B. Concrete thrust blocks shall be paid for under a separate pay item.

1.6 INSERTING VALVES AND BOXES

A. Payment for furnishing and installing inserting valves and boxes will be made at their respective contract unit price each, complete in place, which price includes compensation for furnishing and delivering all equipment and machinery to install insertion valve, excavation (including rock), exposing existing water main, installing tapping saddle and tapping cartridge on existing main, blocking, drilling and tapping existing live water main, dewatering, installation of insertion valve, backfilling, surface restoration (including concrete and asphalt pavement replacement), and all other installation requirements necessary to complete the insertion valve.

1.7 LINE STOP

A. Payment for furnishing and performing line stop will be made at their respective contract unit price each, complete in place, which price includes compensation for furnishing and delivering all equipment and machinery to perform line stop, excavation (including rock), exposing existing water main, installing tapping saddle and tapping cartridge on existing main, blocking, drilling and tapping existing live water main, dewatering, performing line stop, backfilling, surface restoration (including concrete and asphalt pavement replacement), and all other installation requirements necessary to complete the line stop.

1.8 FIRE HYDRANT

A. Payment for furnishing and installing 6" fire hydrant will be made at the contract unit price each, complete in place, which price shall include compensation for furnishing and delivering

the hydrant, excavating (including rock), installation of hydrant, and “GripRing” restraints, disinfection, backfilling, surface restoration and all other items necessary for its construction as shown on the Drawings and/or described in the specifications.

B. Gate valve, piping, fittings, and concrete thrust blocks shall be paid for under separate pay items.

1.9 YARD HYDRANT AND METER SETTER

A. Payment for furnishing and installing 3/4" yard hydrant and 3/4” meter setter will be made at the contract unit price each, complete in place, which price shall include compensation for furnishing and delivering the 3/4” yard hydrant, 3/4” water meter setter, bronze service fittings, excavating (including rock), installation of meter setter and hydrant, meter box, bronze service fittings, backfilling, surface restoration, disinfection, and all other items necessary for its construction as shown on the Drawings and/or described in the specifications.

B. Piping and concrete thrust blocks shall be paid for under separate pay items.

C. Water meter shall be furnished and installed by the Owner.

1.10 POST HYDRANT

A. Payment for furnishing and installing 3" post hydrant will be made at the contract unit price each, complete in place, which price shall include compensation for furnishing and delivering the hydrant, excavating (including rock), installation of hydrant, and “GripRing” restraints, backfilling, surface restoration, disinfection, and all other items necessary for its construction as shown on the Drawings and/or described in the specifications.

B. Gate valve, piping, fittings, and concrete thrust blocks shall be paid for under separate pay items.

1.11 CUT & CAP EXISTING WATER MAIN

A. Payment for cutting and capping existing water mains of all sizes and types shown on the Drawings will be made at the contract unit price each, complete in place, which price shall include compensation for closing valves to isolate connection, excavating (including rock), removing existing fittings or cutting existing main, capping existing mains (where indicated), installation of “GripRing” restraints, dewatering, backfilling, surface restoration (including concrete and asphalt pavement replacement), and all other installation requirements for abandoning existing water mains as specified and/or shown on the Drawings.

1.12 CONCRETE FOR THRUST BLOCKS, ANCHORS, OR ENCASEMENT

A. Payment for concrete thrust blocks, anchors, cradles, and/or encasement will be made at the contract unit price per cubic yard, complete in place, which price shall include compensation for furnishing and delivering the concrete, forming and placing the concrete, and all labor and effort necessary to complete the concrete work.

1.13 CONNECTION TO EXISTING WATER MAINS (Wet Tap)

A. Payment for connections to existing water mains will be made at the contract unit price each, complete in place, which price shall include compensation for furnishing and delivering tapping sleeve and tapping equipment, excavating (including rock), exposing existing water main, installing tapping sleeve on existing main, disinfection, attaching valve, drilling and tapping existing live water main, dewatering, backfilling, surface restoration (including concrete and asphalt pavement replacement), and all other installation requirements for connection to existing mains.

B. Gate valves shall be paid for under a separate pay item.

1.14 CONNECTION TO EXISTING WATER MAINS (Dry Tap)

A. Payment for connections to existing water mains will be made at the contract unit price each, complete in place, which price shall include compensation for closing valves to isolate connection, excavating (including rock), removing existing fittings or cutting existing main, cutting and capping existing mains (where indicated), dewatering, connection of new water main, disinfection, backfilling, surface restoration (including concrete and asphalt pavement replacement), and all other installation requirements for connection to existing mains.

B. Piping, fittings, and gates valves shall be paid for under separate pay items.

1.15 RELOCATE EXISTING CUSTOMER METER SETTING

A. Payment to relocate an existing service meter setting will be made at the contract unit price each, complete in place, which shall include compensation for relocating the existing water meter and furnishing and installing new meter setter, new meter box, compression couplings, bronze service fittings required to make connection to existing service piping, backfill, surface restoration, materials and labor necessary to complete the work.

B. Service piping shall be paid for under a separate pay item.

1.16 CASING PIPE BORED AND JACKED BENEATH ROADWAYS

A. The steel casing pipe required to be bored and/or jacked beneath roadways will be measured from end to end of the completed casing pipe, and will be paid for at the contract unit price per linear foot, complete in place, which price shall include the casing pipe, casing spacers, labor to load carrier piping, material and work for sealing the ends of casing pipe, and all other items necessary for its construction as shown on the Drawings and/or described in the Specifications.

B. Piping shall be paid for under a separate pay item.

1.17 CASING PIPE OPEN CUT BENEATH PAVED DRIVEWAYS AND GAS MAIN EASEMENT

A. The steel casing pipe required to be open cut beneath driveways and gas main easement will be measured from end to end of the completed casing pipe in place, and will be paid for at the contract unit price per linear foot, complete in place, which price shall include the excavation (including rock), bedding, installation of casing pipe, backfilling, casing spacers, labor to load carrier piping, surface restoration (including concrete and asphalt pavement replacement), material and work for sealing the ends, and all other items necessary for its construction as shown on the Drawings and/or described in the Specifications.

B. Piping shall be paid for under a separate pay item.

1.18 CUSTOMER SERVICE CASING PIPING BENEATH ROADWAYS

A. Payment for customer service casing piping installed by directional drill will be made at the contract price per linear foot, as measured from end to end, complete in place, which price shall include compensation for furnishing the casing pipe, excavation, directional drilling of casing pipe, labor to load service piping within casing pipe, backfilling and surface restoration.

B. Service piping shall be paid for under a separate pay item.

1.19 SERVICE PIPING (NOT CROSSING A PAVED ROAD)

A. Payment for service piping installed by open cut, will be made at the contract price per linear foot, complete in place, which shall include compensation for furnishing, hauling, trenching (including rock excavation), laying, jointing, testing and backfilling. The quantity of service piping to be paid for shall be the length of the completed service line measured along its centerline between the water main and the Customer's property line. Service piping to meter shall end at Customer's property line with meter located just inside property line. Service piping from the meter box to the house will be furnished and installed by others.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 012213

SECTION 013323 - SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND RFI'S

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

A. General: This section specifies procedural requirements for non- administrative submittals including shop drawings, product data, samples (when samples are specifically requested) and other miscellaneous work-related submittals. Shop drawings, product data, samples and other work-related submittals are required to amplify, expand and coordinate the information contained in the Contract Documents.

B. Refer to other Division-01 sections and other Contract Documents for Specifications on administrative, non-work-related submittals. Such submittals include, but are not limited to the following items:

1. Permits.
2. Payment applications.
3. Performance and payment bonds.
4. Insurance certificates.
5. Inspection and test reports.
6. Schedule of values.
7. Progress reports.
8. Listing of subcontractors.
9. Operating and Maintenance Manuals

C. Engineer prefers initial submittals be in electronic media along with one paper copy for review. Engineer utilizes Newforma software and will provide Contractor with the necessary links and instructions for submittal purposes. If Contractor does not have capability to submit electronic submittals, then Contractor shall submit a request to Engineer for waiver. In the event a waiver is granted, paper submittals shall be provided as directed by the Engineer.

D. Submittals shall be checked and reviewed by the Contractor and stamped with Contractor's review stamp before submission to the Engineer. The review of the submittals by the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Review of such submittals will not relieve the Contractor of the responsibility for any errors which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work.

E. All Requests for Information (RFI) to Engineer shall be submitted electronically via Engineer's Newforma software.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-01 Specification sections, apply to work of this section.

B. Section 017823 - Operating and Maintenance Manuals.

1.3 DEFINITIONS

A. Shop drawings are technical drawings and data that have been specially prepared for this project, including but not limited to the following items:

1. Fabrication and installation drawings.
2. Setting diagrams.
3. Shopwork manufacturing instructions.
4. Templates.
5. Patterns.
6. Coordination drawings (for use on site).
7. Schedules.
8. Design mix formulas.
9. Contractor's engineering calculations.

Standard information prepared without specific reference to a project is not considered to be shop drawings.

B. Product data includes standard printed information on manufactured products that has not been specially-prepared for this project, including but not limited to the following items:

1. Manufacturer's product specifications and installation instructions.
2. Standard color charts.
3. Catalog cuts.
4. Roughing-in diagram and templates.
5. Standard wiring diagrams.
6. Printed performance curves.
7. Operational range diagrams.
8. Mill reports.
9. Standard product operating and maintenance manuals.

C. Samples, where specifically required, are physical examples of work, including but not limited to the following items:

1. Partial sections of manufactured or fabricated work.
2. Small cuts or containers of materials.
3. Complete units of repetitively-used materials.
4. Swatches showing color, texture and pattern.
5. Color range sets.
6. Units of work to be used for independent inspection and testing.

D. Miscellaneous submittals are work-related, non-administrative submittals that do not fit in the three previous categories, including, but not limited to the following:

1. Specially-prepared and standard printed warranties.
2. Maintenance agreements.
3. Workmanship bonds.

4. Survey data and reports.
5. Testing and certification reports.
6. Record drawings.
7. Field measurement data.

1.4 SUBMITTAL PROCEDURES

A. General: Refer to the General Conditions and Paragraph 1.2A hereinbefore for basic requirements for submittal handling.

B. Coordination: Coordinate the preparation and processing of submittals with the performance of the work. Coordinate each separate submittal with other submittals and related activities such as testing, purchasing, fabrication, delivery and similar activities that require sequential activity.

It is the Contractor's responsibility to make such field measurements as are needed to base submittals on actual field conditions to assure proper connection, fit, function and performance of all work and equipment in the execution of the contract work.

Coordinate the submittal of different units of interrelated work so that one submittal will not be delayed by the Architect/Engineer's need to review a related submittal. The Architect/Engineer reserves the right to withhold action on any submittal requiring coordination with other submittals until related submittals are forthcoming.

C. Coordination of Submittal Times: Prepare and transmit each submittal to the Architect/Engineer sufficiently in advance of the scheduled performance of related work and other applicable activities. Transmit different kinds of submittals for the same unit of work so that processing will not be delayed by the Architect/Engineer's need to review submittals concurrently for coordination.

D. Review Time: Allow fourteen (14) days so that the installation will not be delayed as a result of the time required to properly process submittals, including time for resubmittal, if necessary. Advise the Architect/Engineer on each submittal, as to whether processing time is critical to the progress of the work and if the work would be expedited if processing time could be shortened.

1. Allow a longer time period where processing must be delayed for coordination with subsequent submittals. The Architect/Engineer will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination.
2. No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Architect/Engineer sufficiently in advance of the work.

E. Submittal Preparation: Mark each submittal with a permanent label for identification. Provide the following information on the label for proper processing and recording of action taken.

1. Project name.
2. Date.
3. Name and address of Architect/Engineer.
4. Name and address of Contractor.
5. Name and address of subcontractor.
6. Name and address of supplier.

7. Name of manufacturer.
8. Number and title of appropriate specification section.
9. Drawing number and detail references, as appropriate.
10. Similar definitive information as necessary.

F. All submittals shall be referenced to the applicable item, section and division of the Specifications, and to the applicable drawing(s) or drawing schedule(s). Include only one item in a submittal.

G. The Contractor shall review and check submittals, and shall indicate his review by initials and date. Any submittal received without this evidence of review shall be returned to the Contractor without review.

H. If the submittals deviate from the Contract Drawings and/or Specifications, the Contractor shall advise the Engineer in writing of the deviation and the reasons therefore.

I. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Architect/Engineer, and to other destinations as indicated, by use of a transmittal form. Submittals received from sources other than the Contractor will be returned to the sender "without action".

J. Electronic Submittals: If the electronic method of submittals is agreed to by Contractor, Engineer, and Owner, the format and procedures will be determined and implemented prior to any submittals. Submittals will be processed through “Newforma” software. Each item of the submittal documents shall be in .pdf format and shall be oriented so that they are read from upper left corner to lower right corner, with no rotation of said document being required after receiving it. The .pdf file shall be named so that it describes the item being submitted. All other requirements herein are part of the electronic submittal process with the exception of the duplicate copies. Contractor stamp indicating review and any comments or notes must be on the .pdf submittal.

1.5 SPECIFIC SUBMITTAL REQUIREMENTS

A. Shop drawings shall be prepared by a qualified detailer. Details shall be identified by reference to sheet and detail numbers shown on Contract Drawings. Where applicable, show fabrication, layout, setting and erection details.

Shop drawings are defined as original drawings prepared by the Contractor, subcontractors, suppliers, or distributors performing work under this Contract. Shop drawings illustrate some portion of the work and show fabrication, layout, setting or erection details of equipment, materials and components. The Contractor shall, except as otherwise noted, have prepared the number of reviewed copies required for his distribution plus four (4) which will be retained by the Engineer. Shop drawings shall be folded to an approximate size of 8-1/2" x 11" and in such manner that the title block will be located in the lower right-hand corner of the exposed surface.

B. Project data shall include manufacturer's standard schematic drawings modified to delete information which is not applicable to the project, and shall be supplemented to provide additional information applicable to the project. Each copy of descriptive literature shall be clearly marked to identify pertinent information as it applies to the project.

C. Where samples are required, they shall be adequate to illustrate materials, equipment or workmanship, and to establish standards by which completed work is judged. Provide sufficient size and quantity to clearly illustrate functional characteristics of product and material, with integrally related parts and attachment devices, along with a full range of color samples.

D. In the event the Engineer does not specifically reject the use of material or equipment at variance to that which is shown on the Drawings or specified, the Contractor shall, at no additional expense to the Owner, and using methods reviewed by the Engineer, make any changes to structures, piping, controls, electrical work, mechanical work, etc., that may be necessary to accommodate this equipment or material. Should equipment other than that on which design drawings are based be accepted by the Engineer, shop drawings shall be submitted detailing all modification work and equipment changes made necessary by the substituted item.

E. Additional information on particular items, such as special drawings, schedules, calculations, performance curves, and material details, shall be provided when specifically requested in the technical Specifications.

F. Submittals for all electrically operated items (including instrumentation and controls) shall include complete size, color coding, all terminations and connections, and coordination with related equipment.

G. Equipment shop drawings shall indicate all factory or shop paint coatings applied by suppliers, manufacturers and fabricators; the Contractor shall be responsible for insuring the compatibility of such coatings with the field-applied paint products and systems.

H. Fastener specifications of manufacturer shall be indicated on equipment shop drawings.

I. Where manufacturers brand names are given in the Specifications for building and construction materials and products, such as grout, bonding compounds, curing compounds, masonry cleaners, waterproofing solutions and similar products, the Contractor shall submit names and descriptive literature of such materials and products he proposes to use in this Contract.

J. No material shall be fabricated or shipped unless the applicable drawings or submittals have been reviewed by the Engineer and returned to the Contractor.

K. All bulletins, brochures, instructions, parts lists, and warranties package with and accompanying materials and products delivered to and installed in the project shall be saved and transmitted to the Owner through the Engineer.

1.6 REVIEW STATUS

A. Submittals will be returned, stamped with the following classifications: "Reviewed", "Furnish as Corrected", "Revise and Resubmit", "Rejected", or "Submit Specified Item".

B. In some instances, corrections to dimensions or clarification notations will be required, in which case the drawings will be marked "Furnish as Corrected." These shop drawings will not be required to be resubmitted for further approval unless the submittal has been marked "Resubmit Record Copy." If the supplier makes additional modifications after receiving a "Furnish as

Corrected" disposition, the drawings must then be resubmitted for review.

C. If the shop drawing is returned with the notation “Revise and Resubmit”, the Contractor shall promptly make the revisions indicated and repeat the initial approval procedure.

D. If the shop drawing is returned with the notation “Submit Specified Item”, this indicates that the submittal does not meet the specification, will not be reviewed, and is unacceptable. Upon return of a drawing so marked, the Contractor shall repeat the initial approval procedure, submitting acceptable materials or equipment.

E. The "Rejected" notation is used to indicate materials or equipment that are not acceptable and are not included in the project.

1.7 REMINDER OF CONTRACTOR RESPONSIBILITIES

A. Verify field measurements, field construction criteria, catalog numbers, and similar data.

B. Coordinate each submittal with requirements of work and of Contract Documents.

C. Notify Engineer, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.

D. Begin no work, and have no material or products fabricated or shipped which requires submittals until return of submittals with Engineer's stamp and initials or signature indicating review.

E. It is emphasized that the review of shop drawings by the Engineer is for general conformance to the Contract Drawings and Specifications, but subject to the detailed requirements of the Contract Drawings and Specifications. Although the Engineer may check submitted data in more or less detail, such checking is an effort to discover errors and omissions in the Contractor's drawings and to assist the Contractor in coordinating and expediting his work, but shall in no way relieve the Contractor of his obligation and responsibility to properly coordinate the work, and to Engineer the details of the work in such a manner, that the purpose and intent of the Contract will be achieved nor shall any such detailed checking by the Engineer be construed as placing on him or on the Owner, any responsibility for the accuracy, proper fit, functioning or performance of any phase of the work included in this Contract. The Contractor is responsible for confirmation and correlation of dimensions at the job site; for information that pertains solely to the fabrication processes or to the techniques of construction; for the coordination of the work of all trades; and for performance of his work in a safe and satisfactory manner.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION

The following is a description of the procedures to be followed for all submittals including, but not limited to, Shop Drawings, Product Data, Samples, Certificates, Calculations, Procedures/Reports, Warranties, and Operations and Maintenance Manual Data. Refer to Section 01340 – Shop Drawings, Product Data and Samples for detailed requirements.

3.1 PREPARING SUBMITTAL

A. Complete GRW's Submittal Stamp Page

1. GRW's Submittal Stamp Page will be provided to the Contractor and will be pre-filled with project specific information and the Contractor's contact information.

2. The Contractor fills in the following:

- Number of copies submitted

- Submittal ID Number

Submittal ID Numbers consist of the specification number-sequence number

264313-01 – submittal #1 for spec number 264313
264313-02 – submittal #2 for spec number 264313
266013-01 – submittal #1 for spec number 266013

Resubmittal ID numbers consist of the specification number-sequence number-revision number

264313-01-**01** – 1st resubmittal of 264313-01
264313-01-**02** – 2nd resubmittal of 264313-01

- Submittal Description (should be unique for each submittal)

- Contractor's signature on the Stamp Page indicating compliance with submittal requirements

- Contractor's stamp (if the Contractor does not have a stamp, this may be left blank)

B. Any corrections or notations added to submittals by the Contractor or any of his agents, shall be done in ink (blue, black or green).

C. Red will be reserved for the Engineer's notations and corrections.

D. **Add the Submittal Stamp Page as the first page of the submittal and scan the entire document as one (1) pdf file to send through Newforma.**

3.2 SENDING SUBMITTAL VIA NEWFORMA

A. Provide the Engineer with email addresses of each team member who will be using Newforma. The Engineer will use this information to give them access to the website.

B. The Contractor will then receive an email from Newforma asking them to set up their user name/password. The email will contain a link to the site or you can log into Newforma's Info Exchange Site at the following address (https://info.grwinc.com/userweb/login/login.aspx).

3.3 SUBMITTAL CLASSIFICATIONS

A. Submittals will be returned (via Newforma) to the Contractor stamped by GRW with one of the following classifications:

1. "Reviewed"
   This indicates the Engineer has reviewed the submittal for general conformance to the Contract Documents, but subject to the detailed requirements of the Contract Documents.

2. "Furnish as Corrected"
   This indicates corrections or clarifications have been noted on the submittal. This submittal will not be required to be resubmitted for further approval.

3. "Revise and Resubmit"
   This indicates the Contractor must promptly make the revisions indicated and repeat the submittal process using a resubmittal number.

4. "Submit Specified Item"
   This indicates a specific item included in the submittal does not meet requirements of the Contract Documents. The Contractor must promptly make revisions and repeat the submittal process.

5. "Rejected"
   This indicates the submittal is not acceptable or not to be included in the project.

3.4 PREPARING HARDCOPIES

A. The Contractor shall mail the Engineer three (3) hardcopies of each submittal which has been marked as either "Reviewed" or "Furnish as Corrected".

NOTE: Submittals will not be considered final until the hardcopies have been received by the Engineer and may not be eligible for billing until such time.

END OF SECTION 013323

SECTION 014500 - QUALITY CONTROL SERVICES – LINE PROJECT

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

A. Required inspection and testing services are intended to assist in the determination of probable compliance of the Work with requirements specified or indicated. These required services do not relieve the Contractor of responsibility for compliance with these requirements or for compliance with requirements of the Contract Documents.

B. Tests, inspections and certifications of materials, equipment, subcontractors or completed Work, as required by the various sections of the Specifications shall be obtained by the Contractor and all costs shall be included in the Contract Price.

C. The Contractor shall submit to the Engineer the name of any testing laboratory to be used.

D. Contractor shall deliver written notice to the Engineer at least 24 hours in advance of any inspections or tests to be made at the project site. All inspections or tests to be conducted at the field shall be done in the presence of the Engineer or his representative.

E. Certifications by independent testing laboratories may be by copy of the attest and shall give scientific procedures and results of tests. Certifications by persons having interest in the matter shall be by original attest properly sworn to and notarized.

F. Inspections, tests and related actions specified in this section and elsewhere in the Contract Documents are not intended to limit the Contractor's own quality control procedures which facilitate overall compliance with requirements of the Contract Documents.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-01 Specification sections, apply to Work of this Section.

1.3 SUBMITTALS

A. General: Refer to Section 01 33 23 for the general requirements on submittals. Submit a certified written report of each inspection, test or similar service, directly to the Architect/Engineer.

B. Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to the following:

1. Name of testing agency or test laboratory.
2. Dates and locations of samples and tests or inspections.
3. Names of individuals making the inspection or test.
4. Designation of the work and test method.

5. Complete inspection or test data.
6. Test results.
7. Interpretations of test results.
8. Notation of significant ambient conditions at the time of sample-taking and testing.
9. Comments or professional opinion as to whether inspected or tested work complies with requirements of the Contract Documents.
10. Recommendations on retesting, if applicable.

1.4 RESPONSIBILITIES

A. Contractor Responsibilities: Except where they are specifically indicated as being the Owner's responsibility, or where they are to be provided by another identified entity, inspections, tests and similar quality control services are the Contractor's responsibility; these services also include those specified to be performed by an independent agency and not directly by the Contractor. Costs for these services shall be included in the Contract Sum. The Contractor shall employ and pay an independent agency, testing laboratory or other qualified firm to perform quality control services specified.

B. Retest Responsibility: Where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance of related Work with the requirements of the Contract Documents, then retests are the responsibility of the Contractor, regardless of whether the original test was the Contractor's responsibility. Retesting of work revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original Work.

C. Responsibility for Associated Services: The Contractor is required to cooperate with the independent performing required inspections, tests and similar services. Provide such auxiliary services as are reasonably requested. Notify the testing agency sufficiently in advance of operations to permit assignment of personnel. These auxiliary services include but are not necessarily limited to the following:

Providing access to the work.
Taking samples or assistance with taking samples.
Delivery of Samples to test laboratories.
Delivery and protection of samples and test equipment at the project site.

D. Coordination: The Contractor and each independent agency engaged to perform inspections, tests and similar services for the project shall coordinate the sequence of their activities so as to accommodate required services with a minimum of delay in the progress of the Work. In addition, the Contractor and each independent testing agency shall coordinate their Work so as to avoid the necessity of removing and replacing Work to accommodate inspections and tests. The Contractor is responsible for scheduling times for inspections, tests, taking of samples and similar activities.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. Upon completion of inspection, testing, sample taking and similar services performed on the Work, repair damaged work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed finishes. Comply with the Contract Document requirements for "Cutting and Patching". Protect Work exposed by or for quality control service activities, and protect repaired work. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION 014500

SECTION 017700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Liquidated Damages: Supplemental General Conditions

B. Cleaning: Section 017400.

C. Project Record Documents: Section 017839.

1.2 SUBSTANTIAL COMPLETION

A. In order to initiate project closeout procedures, the Contractor shall submit the following:

1. Written certification to Engineer that project is Substantially Complete.
2. List of major items to be completed or corrected.

B. Engineer will make an inspection within seven (7) days after receipt of certification, together with Owner's Representative.

C. Should Engineer consider that work is Substantially Complete:

1. Contractor shall prepare, and submit to Engineer, a list of items to be completed or corrected, as determined by the inspection.
2. Engineer will prepare and issue a Certificate of Substantial Completion, containing:

a. Date of Substantial Completion.
b. Contractor's list of items to be completed or corrected, verified and amended by Engineer.
c. The time within which Contractor shall complete or correct work of listed items.
d. Time and date Owner will assume possession of work or designated portion thereof.
e. Responsibilities of Owner and Contractor for:

1) Insurance
2) Utilities
3) Operation of Mechanical, Electrical, and Other Systems.
4) Maintenance and Cleaning.
5) Security.

f. Signatures of:

1) Engineer
2) Contractor
3) Owner

3. Owner occupancy of Project or Designated Portion of Project:

   a. Contractor shall:

      1) Obtain certificate of occupancy.
      2) Perform final cleaning in accordance with Section 017400.

   b. Owner will occupy Project, under provisions stated in Certificates of Substantial Completion.

4. Contractor: Complete work listed for completion or correction, within designated time.

D. Should Engineer consider that work is not Substantially Complete:

1. He shall immediately notify Contractor, in writing, stating reasons.
2. Contractor: Complete work, and send second written Engineer, certifying that Project, or designated portion of Project is substantially complete.
3. Engineer will reinspect work.

E. Should Engineer consider that work is still not finally complete:

1. He shall notify Contractor, in writing, stating reasons.
2. Contractor shall take immediate steps to remedy the stated deficiencies, and send third written notice to the Engineer certifying that the work is complete.
3. Engineer and Owner will reinspect work at Contractor's expense.

1.3 FINAL INSPECTION

A. Contractor shall submit written certification that:

1. Contract Documents have been reviewed.
2. Project has been inspected for compliance with Contract Documents.
3. Work has been completed in accordance with Contract Documents.
4. Equipment and systems have been tested in presence of Owner's Representative and are operational.
5. Project is completed, and ready for final inspection.

B. Engineer will make final inspection within seven (7) days after receipt of certification.

C. Should Engineer consider that work is finally complete in accordance with requirements of Contract Documents, he shall request Contractor to make Project Closeout submittals.

D. Should Engineer consider that work is not finally complete:

1. He shall notify Contractor in writing, stating reasons.
2. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to Engineer certifying that work is complete.
3. Engineer will reinspect work.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: To requirements of Section 017839.

B. Guarantees, Warranties and Bonds: To requirements of particular technical Specifications and Section 017834.

1.5 INSTRUCTION

A. Instruct Owner's personnel in operation of all systems, mechanical, electrical, and other equipment.

1.6 FINAL APPLICATION FOR PAYMENT

A. Contractor shall submit final applications in accordance with requirements of General Conditions.

1.7 FINAL CERTIFICATE FOR PAYMENT

A. Engineer will issue final certificate in accordance with provisions of general conditions.

B. Should final completion be materially delayed through no fault of Contractor, Engineer may issue a Semi-Final Certificate for Payment.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 017700

SECTION 017823 – OPERATIONS AND MAINTENANCE MANUALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Compile product data and related information appropriate for Owner's maintenance and operation of equipment furnished under the Contract. Prepare operating and maintenance data as specified.

B. In addition to maintenance and operations data, the manufacturer's printed recommended installation practice shall also be included. If not part of the operations and maintenance manual, separate written installation instructions shall be provided, serving to assist the Contractor in equipment installation.

C. Related requirements specified elsewhere:

1. Shop Drawings, Product Data and Samples: 01 33 23.
2. Project Closeout: Section 01 77 00.
3. Project Record Documents: Section 01 78 39.
4. Warranties and Bonds: Section 01 78 34.

1.2 QUALITY ASSURANCE

A. Preparation of data shall be done by personnel:

1. Trained and experienced in maintenance and operation of the described products.
2. Completely familiar with requirements of this Section.
3. Skilled as a technical writer to the extent required to communicate essential data.
4. Skilled as a draftsman competent to prepare required drawings.

1.3 SUBMITTAL SCHEDULE

A. Submit one (1) digital copy and one (1) printed copy of preliminary draft of proposed formats and outlines of contents prior to submittal of operation and maintenance data of equipment.

1. Engineer will review draft and return with comments.

B. Submit one (1) digital copy and one (1) printed copy of completed data for final review:

1. Prior to the completion of the Contract and before payment in excess of 90% of the total Contract amount is authorized.

C. Provide two (2) copies of approved completed O & M Manual in final form ten (10) days prior to final inspection or acceptance to the Owner.

D. Engineers copies for both review and final version shall be in electronic format. Owner shall receive an electronic version AND two (2) hard copies.

1.4 FORM OF SUBMITTALS

A. Prepare data in the form of an instructional manual for use by Owner's personnel.

B. Format:

1. Size: 8-1/2 in. x 11 in.
2. Paper: 20 pound minimum, white, for typed pages.
3. Text: Manufacturer's printed data, or neatly typewritten.
4. Photo copies must be clear and legible.
5. Drawings:

   a. Provide reinforced punched binder tab, bind in with text.
   b. Fold large drawings to the size of the text pages where feasible.
   c. For flow or piping diagrams that cannot be detailed on the standard size drawings, a larger, appropriate size drawing may be submitted and supplied in a properly marked map packet.

6. Provide fly-leaf for each separate product, or each piece of operating equipment.

   a. Provide typed description of product, and major component parts of equipment.
   b. Provide indexed tabs.

7. Cover: Identify each volume with types or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:

   a. Title of Project.
   b. Identity of separate structure as applicable.
   c. Identity of general subject matter covered in the manual.

C. Binders:

1. Commercial quality, durable and cleanable, 3-hole, 3" or 4" D-ring binders, with oil and moisture resistant hard covers.
2. When multiple binders are used, correlate the data into related consistent grouping.
3. Imprinted on the front cover and side of each binder shall be the name of the Plant, the Contract Number and Volume Number.
4. Binders shall be new and not recycled form a prior data manual.

D. Engineers copies for both review and final version shall be in electronic format. Owner shall receive an electronic version AND two (2) hard copies.

1.5 CONTENTS OF MANUAL

A. Table of Contents: Each item of equipment shall be placed in a logical sequential order, as listed or ordered in the Contract Documents.

B. Content, for each unit of equipment and system, as appropriate:

1. Process Description: Detailed description of the process and operation functions as applicable.
2. Component Instructions: Instructions for all components of the equipment whether manufactured by the supplier or not, including valves, controllers and other miscellaneous components.
3. Component Data: Description of unit and component parts.

    a. Function, normal operating characteristics, and limiting conditions.
    b. Performance curves, engineering data and tests.
    c. Complete nomenclature and commercial number of all replaceable parts.
    d. Exploded and/or sectional drawing views.
    e. Piping diagrams numbered to correspond to the installation.
    f. Equipment model number and serial number.

4. Control and Wiring Diagrams:

    a. Internal and external wiring diagrams numbered to correspond to the installation.
    b. Control circuit diagrams
    c. One line diagrams
    d. P&ID drawings
    e. As-installed control diagrams by controls supplier.

5. Operating procedures:

    a. Start-up, break-in, routine and normal operating instructions.
    b. Regulation, control, stopping, shutdown and emergency instructions.
    c. Summer and winter operating instructions.
    d. Special operating instructions.
    e. Description of sequence of operation by control supplier.

6. Maintenance Procedures:

    a. Routine operations.
    b. Guide to "trouble-shooting".
    c. Disassembly, repair and reassembly.
    d. Alignment, adjusting and checking.
    e. Equipment parts list.
    f. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.

        (1). Predicted life of parts subject to wear.

    g. Local service center.

7. Lubrication and Service schedule.

    a. Preventative maintenance schedule.
    b. Component lubrication and servicing interval schedule.
    c. List of lubricants and/or filters required.

d. Lubrication and servicing procedures.

8. Recommended spare parts list and quantities.
9. Guide to "trouble-shooting".
10. Plant specific instructions:

a. Each Contractor's coordination drawings.
b. As-installed color coded piping diagrams.
c. Detailed specific “Sequence of Operation” for the constructed plant or project.
d. Charts of valve tag numbers, with the location and function of each valve.

11. Plant specific start-up and shut-down procedures.

12. Detailed instructions for emergency operation

13. Other data as required under pertinent sections of Specifications.

C. Content, for each electrical system, as appropriate:

1. Description of system and component parts.

a. Function, normal operating characteristics, and limiting conditions.
b. Performance curves, engineering data and tests.
c. Complete nomenclature and commercial number of replacement parts.

2. Circuit directories of panel boards.

a. Electrical service.
b. Controls.
c. Communications.

3. As-installed color-coded wiring diagrams.
4. Operating procedures:

a. Routine and normal operating instructions.
b. Sequences required.
c. Special operating instructions.

5. Maintenance procedures:

a. Routine operations.
b. Guide to "trouble-shooting".
c. Disassembly, repair and reassembly.
d. Adjustment and checking.

6. Manufacturer's printed operating and maintenance instructions.
7. List of original manufacturer's recommended spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

D. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner's personnel.

E. Additional requirements for operating and maintenance data: The respective section of Specifications.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 017823

MANUFACTURER SUBMITTALS/
OPERATION AND MAINTENANCE MANUAL REVIEW GUIDE

Equipment Items	Draft Submittal (1.03 A)	Final Submittal (1.03 B)	Format (1.04 B)	Binder (1.04 C)	Table of Contents (1.05 A)	Process Description (1.05 B.1)	Component Instructions (1.05 B.2)	Component Data (1.05 B.3)	Model/Serial Number (1.07 B.3.f)	Control & Wiring Diagrams (1.05 B.4)	Operating Procedures (1.05 B.5)	Maintenance Procedures (1.05 B.6)	Lubrication & Service Schedule (1.05 B.7)	Spare Parts List (1.07 B.8)	Troubleshooting Guide (1.07 B.9)	Plant Specific Instructions (1.07 B.10)	Start-up/Shut-Down (1.07 B.11)	Emergency Operation (1.07 B.12)	Comments

SECTION 017834 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

A. Compile specified warranties and bonds.

B. Compile specified service and maintenance contracts.

C. Co-execute submittals when so specified.

D. Review submittals to verify compliance with Contract Documents.

E. Submit to Engineer for review and transmittal to Owner. **Comply with provisions of Section 013323.**

1.2 RELATED DOCUMENTS

A. Bid Bond: Instructions to Bidders.

B. Performance and Payment Bonds: General Conditions and Supplemental General Conditions.

C. Guaranty: General Conditions and Supplemental General Conditions.

D. General Warranty of Construction: General Conditions.

E. Project Closeout: Section 01 77 00.

F. Warranties and Bonds required for specific products: As listed in technical specifications in these Contract Documents herein.

G. Provisions of Warranties and Bonds, Duration: Respective specification sections for particular products.

1.3 SUBMITTALS REQUIREMENTS

A. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.

B. Furnish two (2) original signed copies.

C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.

1. Product, equipment or work item.

2. Firm name, address and telephone number.
3. Scope
4. Date of beginning of warranty, bond or service and maintenance contract.
5. Duration of warranty, bond or service and maintenance contract.
6. Provide information for Owner's personnel:

    a. Proper procedure in case of failure.
    b. Instances which might affect the validity of warranty or bond.

7. Contractor name, address and telephone number.

1.4 FORM OF SUBMITTALS

A. Prepare in duplicate packets.

B. Format:

1. Size 8-1/2 in. x 11 in., punch sheets for 3-ring binder.

    a. Fold larger sheets to fit into binders.

2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS." List:

    a. Title of Project
    b. Name of Contractor

C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.5 TIME OF SUBMITTALS

A. For equipment or component parts of equipment put into service during progress of construction:

1. Submit documents within 10 days after inspection and acceptance.

B. Otherwise make submittals within 10 days after date of substantial completion, prior to final request for payment.

C. For items of work, where acceptance is delayed materially beyond the Date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing the date of acceptance as the start of the warranty period.

1.6 SUBMITTALS REQUIRED

A. Submit warranties, bonds, service and maintenance contracts as specified in the respective sections of the Specifications.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 017834

SECTION 017839 - PROJECT RECORD DOCUMENTS - WATER

PART 1 - GENERAL

1.1 MAINTENANCE OF DOCUMENTS

A. Maintain at job site, one copy of:

1. Contract Drawings
2. Specifications
3. Addenda
4. Reviewed Shop Drawings
5. Change Orders
6. Other Modifications to Contract

B. Store documents in approved location, apart from documents used for construction.

C. Provide files and racks for storage of documents.

D. Maintain documents in clean, dry, legible condition.

E. Do not use record documents for construction purposes.

F. Make documents available at all times for inspection by Engineer and Owner.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Shop Drawings, Product Data, and Samples: Section 01 33 23.

1.3 MARKING DEVICES

A. Provide colored pencil or felt-tip marking pen for all marking.

1.4 RECORDING

A. Label each document "PROJECT RECORD" in 2-inch high printed letters.

B. Keep record documents current.

C. Do not permanently conceal any work until required information has been recorded.

D. Contract Drawings: Legibly mark to record actual construction:

1. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.

2. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
3. Field changes of dimension and detail.
4. Changes made by Change Order or Field Order.
5. Details not on original Contract Drawings.

E. Specifications and Addenda: Legibly mark up each section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
2. Changes made by Change Order or Field Order.
3. Other matters not originally specified.

F. Shop Drawings: Maintain as record documents; legibly annotate shop drawings to record changes made after review. Coordinate and confirm with Engineer that electronic versions of all shop drawings have been provided to Engineer.

1.5 SUBMITTALS

A. At completion of project, deliver record documents to Engineer.

B. Accompany submittal with transmittal letter, in duplicate, containing:

1. Date.
2. Project Title and Number.
3. Contractor's Name and Address.
4. Title and Number of each Record Document.
5. Certification that each Document as Submitted is Complete and Accurate.
6. Signature of Contractor, or His Authorized Representative.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 017839

DIVISION 31

EARTHWORK

SECTION 312000 - EARTHWORK

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide all materials, labor, equipment and services necessary to do all clearing and grubbing, excavation, backfilling, providing of additional fill material and topsoil, control of surface drainage and ground water, finished site grading and erosion control required to construct the work as shown.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. State and local code requirements shall control the disposal of trees and shrubs.

B. All burning shall be controlled by applicable local regulations.

C. EXCAVATION SUPPORT AND PROTECTION – Section 31 50 00

D. EROSION AND SEDIMENTATION CONTROL – Section 31 25 02

1.3 JOB CONDITIONS

A. Weather: Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained on account of rain, snow, ice, drought or other adverse weather conditions.

B. Existing Utilities: Prior to commencement of work, the Contractor shall locate existing underground utilities in areas of the work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.

C. Use of Explosives: The Contractor (or any of his Subcontractors) shall not bring explosives onto site or use in work without prior written permission from the Owner. All activities involving explosives shall be in compliance with the rules and regulations of the State Department of Mines, and Minerals, Division of Explosives and Blasting. Contractor is solely responsible for handling, storage, and use of explosive materials when their use is permitted.

D. Protection of Persons and Property:

1. Barricade open excavations occurring as part of this work and post with warning lights.

   a. Operate warning lights as recommended by authorities having jurisdiction.
   b. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

E. Dust Control: Use all means necessary to control dust on or near the project site where such dust is caused by the Contractor's operations or directly results from conditions left by the Contractor.

1.4 UTILITY LINE ACTIVITIES COVERED UNDER NATIONWIDE PERMIT # 12

All activities involving utility line construction covered under NATIONWIDE PERMIT # 12 shall meet the following conditions:

A. The general Water Quality Certification is limited to the crossing of intermittent and perennial streams by utility lines.

B. The construction of permanent or temporary access roads will impact less than 300 linear feet of intermittent and perennial streams and less than one acre of jurisdictional wetlands.

C. Utility lines shall be located at least 50 feet away from a stream which appears as a blue line on a USGA 7 ½ minute topographic map except where the utility line alignment crosses the stream. Utility lines that cross streams shall be constructed by methods that maintain normal stream flow and allow for a dry excavation. Water pumped from the excavation shall be contained and allowed to settle prior to re-entering the stream. Excavation equipment and vehicles shall operate outside of the flowing portion of the stream. Spoil material from the utility line excavation shall not be allowed to enter the flowing portion of the stream.

D. The activities shall not result in any permanent changes in preconstruction elevation contours in waters or wetlands or stream dimension, pattern or profile.

E. Utility line construction projects through jurisdictional wetlands shall not result in conversion of the area to non-wetland status.

F. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction form entering the watercourse.

G. Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access. Effective erosion and sedimentation control measures must be employed at all times during the project to prevent degradation of waters of the Commonwealth. Site regarding and reseeding will be accomplished with 14 days after disturbance.

H. To the maximum extent practicable, all in stream work under this certification shall be performed during low flow.

I. Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances where such in stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.

J. Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If riprap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created because of its placement.

K. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.

L. Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/928-2380.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Definitions:

1. Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GW, GP, GM, SM, SW, SP, GC, SC, ML, and CL.
2. Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups MH, CH, OL, OH and PT. The Contractor shall notify the Engineer if these soil materials are encountered.
3. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, natural or crushed sand.
4. Drainage Fill: Washed, evenly graded mixture of crushed stone, or uncrushed gravel, with 100 percent passing a 1/2 inch sieve and not more than 5 percent passing a No. 4 sieve.
5. Backfill and Fill Materials: Satisfactory soil materials free of debris, waste, frozen materials, vegetable, and other deleterious matter.

PART 3 - EXECUTION

3.1 CLEARING AND GRUBBING

A. Work shall consist of cutting and removing designated trees, stumps, brush, logs, removal of fences, or other loose and projecting material. Unless otherwise specified, it shall also include the grubbing of stumps, roots, and other natural obstructions which, in the opinion of the Engineer, must be removed to execute properly the construction work and operate properly the facility upon the completion of construction.

B. Trees, bushes, and all natural vegetation shall only be removed with the approval of the Engineer. No cleared or grubbed materials shall be used in backfills or embankment fills. All stumps, roots, and other objectionable material shall be grubbed up so that no roots larger than 3 inches in diameter remain less than 18 inches below the ground surface. All holes and depressions left by grubbing operations shall be filled with suitable material and compacted to grade, as recommended in Paragraph 3.06.

C. Disposal shall be by burning or other methods satisfactory to the Engineer; however, burning will be permitted only when the Contractor has obtained written permission from the local regulatory agency.

D. The Contractor shall also remove from the site and satisfactorily dispose of all miscellaneous rubbish including, but not limited to, masonry, scrap metal, rock, pavement, etc., that is under the fill or to be removed as shown on the Drawings, specified herein, or directed by the Engineer.

E. Existing improvements, adjacent property, utility and other facilities, and trees, plants, and brush that are not to be removed shall be protected from injury or damage resulting from the Contractor's operations.

F. Trees and shrubs, designated to remain or that are beyond the clearing and grubbing limit, which are injured or damaged during construction operations shall be treated or replaced at the Contractor's expense by experienced tree surgery personnel.

3.2 EROSION CONTROL

A. Temporary measures shall be applied throughout the construction period to control and to minimize siltation to adjacent properties and waterways. Such measures shall include, but not be limited to, the use of berms, silt barriers, gravel or crushed stone, mulch, slope drains and other methods.

B. These temporary measures shall be applied to erodible material exposed by any activity associated with the construction of this project.

C. Refer to Section 31 25 00, Erosion and Sedimentation Control for requirements.

3.3 EXCAVATION

A. Excavation of every description and of whatever substances encountered within the grading limits of the project shall be performed to the lines and grades indicated on the Drawings. All excavation shall be performed in the manner and sequence as required for the work.

B. All excavated materials that meet the requirements for fill, subgrades or backfill shall be stockpiled within the site for use as fill or backfill, or for providing the final site grades. Where practicable, suitable excavated material shall be transported directly to any place in the fill areas within the limits of the work. All excavated materials that are not suitable for fill, and any surplus of excavated material that is not required for fill shall be disposed of by the Contractor.

C. The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches, dikes and shall perform all pumping and other work necessary to divert or remove rainfall and all other accumulations of surface water from the excavations. The diversion and removal of surface water shall be performed in a manner that will prevent flooding and/or damage to other locations within the construction area where it may be detrimental. The Contractor shall provide, install and operate sufficient trenches, sumps, pumps, hose piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least two (2) feet below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of two (2) feet below the lowest excavation subgrade made until the excavation is backfilled or the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures from natural ground water.

D. Excavations for concrete structural slabs on grade shall extend two (2) feet below the indicated bottom of slabs. The over-excavation shall be backfilled with 18 inches, compacted thickness, of over lot fill material or suitable material as herein specified. The remaining six (6) inches of over-excavation shall be backfilled with porous fill material. The porous fill layer shall extend beyond the limits of the concrete slab a minimum of two (2) feet on all sides as indicated on the Drawings. The porous fill shall be crushed stone or gravel and shall have the following U.S. Standard Sieve gradation:

Sieve	1-1/2	1	3/4	1/2	3/8
% Passing	Min 100	95±5	58±17	Max 15	Max 5

E. Excavations for the construction shall be carefully made to the depths required. Bottoms for footings and grade beams shall be level, clean and clear of loose material, the lower sections true to size. Bottoms of footings and grade beams, in all locations, shall be at a minimum depth of 30 inches below adjacent exterior finished grade or 30 inches below adjacent existing grade, whichever is lower, whether so indicated or not. Footings and grade beam bottoms shall be inspected by the Engineer before any concrete is placed thereon.

F. In excavations for structures where, in the opinion of the Engineer, the ground is spongy or otherwise unsuitable for the contemplated foundation, the Contractor shall remove such unsuitable material and replace it with suitable material properly compacted.

G. Sheeting and shoring shall be provided as necessary for the protection of the work and for the safety of the personnel. The clearances and types of the temporary structures, insofar as they affect the character of the finished work, will be subject to the review of the Engineer, but the Contractor shall be responsible for the adequacy of all sheeting, bracing and cofferdamming. All shoring, bracing and sheeting shall be removed as the excavations are backfilled in a manner such as to prevent injurious caving; or, if so directed by the Engineer, shall be left in place. Sheeting left in place shall be cut off 18 inches below the surface.

H. Excavation for structures which have been carried below the depths indicated without specific instructions shall be refilled to the proper grade with suitable material properly compacted, except that in excavation for columns, walls or footings, the concrete footings shall extend to this lower depth. All work of this nature shall be at the Contractor's expense.

3.4 FILL

A. All existing fill below structures and paved areas must be stripped. The upper six (6) inches of the natural subgrade below shall be scarified and recompacted at optimum moisture to at least ninety-five percent (95%) of Standard Proctor Density ASTM D 698 (latest revision).

B. All vegetation, such as roots, brush, heavy sods, heavy growth of grass and all decayed vegetable matter, rubbish and other unsuitable material within the area upon which fill is to be placed shall be stripped or otherwise removed before the fill is started. In no case will such objectionable material be allowed to remain in or under the fill area. Existing fill from excavated areas on site shall be used as fill for open and/or planted areas. Additional fill stockpiled at the site can be used for structural fill if approved by the Engineer. Any additional material necessary for establishing the indicated grades shall be furnished by the Contractor and approved by the Engineer. All fill material shall be free from trash, roots and other organic material. The best material to be used in fills shall be reserved for backfilling pipe lines and for

finishing and dressing the surface. Material larger than 3 inches maximum dimension shall not be permitted in the upper 6 inches of the fill area. Fill material shall be placed in successive layers and thoroughly tamped or rolled in a manner approved by the Engineer, each layer being moistened or dried such that the specified degree of compaction shall be obtained. No fill shall be placed or compacted in a frozen condition or on top of frozen material. No fill material shall be placed when free water is standing on the surface of the area where the fill is to be placed and no compaction of fill will be permitted with free water on any point of the surface of the fill to be compacted.

C. Where concrete slabs are placed on earth, all loam and organic or other unsuitable material shall be removed. Where fill is required to raise the subgrade for concrete slabs to the elevations as indicated on the Drawings or as required by the Engineer, such fill shall consist of suitable material and shall be placed in layers. Each layer shall be moistened or dried such that the specified degree of compaction shall be obtained. All compaction shall be accomplished in a manner and with equipment as approved by the Engineer. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for adjacent fill.

3.5 BACKFILLING

A. After completion of footings, grade beams and other construction below the elevation of the final grades and prior to backfilling, all forms shall be removed and the excavation shall be cleaned of all trash and debris. Material for backfilling shall be as specified for suitable material, placed and compacted as specified hereinafter. Backfill shall be placed in horizontal layers of the thickness specified and shall have a moisture content such that the required degree of compaction is obtained. Each layer shall be compacted by mechanical tampers or by other suitable equipment approved by the Engineer to the specified density. Special care shall be taken to prevent wedging action or eccentric loading upon or against the structure. Trucks and machinery used for grading shall not be allowed within 45 degrees above the bottom of the footings or grade beams.

B. The trenches shall be backfilled following visual inspection by the Engineer and prior to pressure testing. The trenches shall be carefully backfilled with the excavated materials approved for backfilling, or other suitable materials, free from large clods of earth or stones. Each layer shall be compacted to a density at least equal to that of the surrounding earth and in such a manner as to permit the rolling and compaction of the filled trench with the adjoining earth to provide the required bearing value, so that paving, if required, can proceed immediately after backfilling is completed.

3.6 COMPACTION

A. Suitable material as hereinbefore specified shall be placed in maximum 8" horizontal layers. Compaction shall be performed by rolling with approved tamping rollers, pneumatic-tired rollers, three wheel power rollers or other approved equipment. The degree of compaction required is expressed as a percentage of the maximum dry density obtained by the test procedure presented in ASTM D-698. Laboratory moisture density tests shall be performed on all fill material. Material shall be moistened or aerated as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction. Compaction requirements shall be as specified below:

Fill Utilized For	Required Density (%)	Maximum Permissible Lift Thickness As Compacted, Inches
Backfill & Utility Trenches Under Foundations & Pavements	95-100	8
Backfill Around Structures	95-100	8
Field and Utility Trench Backfill Under Sidewalks and Open Areas	90-100	8

B. Field density tests shall be performed in sufficient number to insure that the specified density is being obtained. Tests shall be in accordance with ASTM Standards D 1556 or D 2922/D 3017 and shall be performed as authorized by the Engineer. Payment for field density tests shall be by the Contractor. Contractor shall provide suitable notification for coordination of testing. Delays due to the lack of adequate advance notification shall be the responsibility of the Contractor.

3.7 SITE GRADING

A. Where indicated or directed, topsoil shall be removed without contamination with subsoil and spread on areas already graded and prepared for topsoil, or transported and stockpiled convenient to areas for later application, or at locations specified. Topsoil shall be stripped to full depth and, when stored, shall be kept separate from other excavated materials and piled free of roots, stones, and other undesirable materials.

B. Following stripping, fill areas shall be scarified to a minimum depth of six (6) inches to provide bond between existing ground and the fill material. Material should be placed in successive horizontal layers not exceeding twelve (12) inches uncompacted thickness. In general, layers shall be placed approximately parallel to the finished grade line.

C. In general and unless otherwise specified, the Contractor may use any type of earth moving equipment he has at his disposal, provided such equipment is in satisfactory condition and of such type and capacity that the work may be accomplished properly and the grading schedule maintained. During construction, the Contractor shall route equipment at all times, both when loaded and empty, over the layers as they are placed, and shall distribute the travel evenly over the entire area.

D. The material in the layers shall be of the proper moisture content before rolling or tamping to obtain the prescribed compaction. Wetting or drying throughout the layer shall be required. Should the material be too wet to permit proper compaction or rolling, all work on the fill thus affected shall be delayed until the material has dried to the required moisture content. If the material is too dry, it shall be sprinkled with water and manipulated to obtain the uniform moisture content required throughout a layer before it is compacted.

E. Each layer of the fill shall be compacted by rolling or tamping to the standard specified in Paragraph 3.06 and not less than 90% maximum density at optimum moisture content as determined by field density tests made by the Standard Proctor method. In general and unless otherwise specified, the Contractor may use any type of compaction equipment such as sheepsfoot rollers, pneumatic rollers, smooth rollers and other such equipment he has at his

disposal, provided such equipment is in satisfactory condition and is of such design, type, size, weight, and quantity to obtain the required density in the embankment. If at any time the required density is not being obtained with the equipment then in use by the Contractor, the Engineer may require that different and/or additional compaction equipment be obtained and placed in use at once to obtain the required compaction.

F. The Contractor shall be responsible for the stability of all embankments and shall replace any portion which, in the opinion of the Engineer, has become displaced due to carelessness or negligence on the part of the Contractor.

3.8 TOPSOIL

A. Provide all labor, materials, equipment and services required for furnishing and placing topsoil. Samples of topsoil shall be submitted to the Engineer for review before topsoil is placed. The material shall be good quality loam and shall be fertile, friable, mellow; free from stones larger than one (1) inch, excessive gravel, junk metal, glass, wood, plastic articles, roots and shall have a liberal amount of organic matter. Light sand loam or heavy clay loam will not be acceptable.

B. The topsoil shall be 3 inches thick in all areas to be seeded. No topsoil shall be placed until the area to be covered is excavated or filled to the required grade. Imported backfill material will be stockpiled on site for structure backfilling and top soiling.

END OF SECTION 312000

SECTION 312319 - DEWATERING

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor and equipment required to dewater all excavations.

B. Dewatering of all excavations shall be the responsibility of the Contractor, and no additional compensation will be allowed for same unless specifically included as a bid item.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Earthwork is included in Section 31 29 00.

B. Erosion and Sedimentation Control is included in Section 31 25 00.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL

A. Dewatering equipment shall be of adequate size and quantity to assure maintaining proper conditions for installing pipe, concrete, backfill or other material or structure in the excavation.

B. Dewatering shall include proper removal of any and all liquid, regardless of its source, from the excavation and the use of all practical means available to prevent surface runoff from entering any excavation.

C. The site shall be kept free of surface water at all times. The Contractor shall install drainage ditches, dikes and shall perform all pumping and other work necessary to divert or remove rainfall and all other accumulations of surface water from the excavations. The diversion and removal of surface water shall be performed in a manner that will prevent flooding and/or damage to other locations within the construction area where it may be detrimental. The Contractor shall provide, install and operate sufficient trenches, sumps, pumps, hose piping, well points, deep wells, etc., necessary to depress and maintain the ground water level at least two (2) feet below the base of the excavation during all stages of construction operations. The ground water table shall be lowered in advance of excavation and maintained a minimum of two (2) feet below the lowest excavation subgrade made until the structure has sufficient strength and weight to withstand horizontal and vertical soil and water pressures from natural ground water.

D. Dewatering operations should not discharge into the sanitary sewer system, or into any ditch, pipe or other conveyance that leads to a regulated water body, except as authorized by a KPDES permit.

END OF SECTION 312319

SECTION 312502 - EROSION AND SEDIMENTATION CONTROL-KPDES REQUIREMENTS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, materials, and equipment required for erecting, maintaining and removing temporary erosion and sedimentation controls as shown on the Drawings and as specified herein and as recommended by state and local regulatory agencies.

B. The contractor shall at all times minimize disturbance and the period of time that the disturbed area is exposed without stabilization practices. In “critical areas” (within 25 feet of a stream) erosion prevention measures such as erosion control mats/blankets, mulch, or straw blown in and stabilized with tackifiers or by treading, etc shall be implemented on disturbed areas within 24 hours or “as soon as practical” after completion of disturbance/grading or following cessation of activities.

C. Temporary erosion controls include, but are not limited to grassing, mulching, seeding, providing erosion control and turf reinforcement mats on all disturbed surfaces including waste area surfaces and stockpile and borrow area surfaces; scheduling work to minimize erosion and providing interceptor ditches at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits.

D. Temporary sedimentation controls include, but are not limited to, silt dams, traps, barriers, and appurtenances on sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits.

E. Contractor is responsible for providing and maintaining effective temporary erosion and sediment control measures prior to and during construction or until final controls become effective.

F. The Contractor shall be responsible for placement of erosion and sedimentation controls. Prior to construction, the Contractor shall develop a Stormwater Pollution Prevention Plan per state regulations. Prior to excavation, fill or grade work, the Contractor shall place controls in locations required by the plan. If during the course of construction, the state and/or local regulatory agency determines additional controls are required, the Contractor shall furnish, install and maintain additional mulching, blankets and/or sediment barriers to control erosion and sedimentation to the satisfaction of the regulatory agency.

G. The Contractor shall inspect and repair all erosion and sedimentation controls every seven (7) days and after each rainfall of 0.5 inch or greater.

H. Bare soil areas must be seeded, mulched, or covered after 14 days if no work will be done in the area within the next 7 days. If areas are to be left bare for more than 14 days, erosion controls and sediment barriers are required to be installed.

I. Erosion Control prevention measures shall be installed prior to removal of vegetation and/or stripping of topsoil.

J. The Contractor is responsible for preparing and submitting the Notice of Intent and attachments and obtaining permit approval prior to the beginning of any construction activities.

1.2 PERMIT AND NOTIFICATION REQUIREMENTS

A. The Contractor shall submit a Notice of Intent Specifically for Construction Activities (NOI-SWCA) before beginning any site disturbance, and shall implement erosion control measures as may be required by state, local and federal agencies. Contractor shall submit a signed Notice of Intent form and required attachments to the Division of Water at least seven (7) days, if an electronic submittal or thirty (30) days if a written submittal, prior to beginning of construction activity. See Paragraph 3.07 in this section for detailed requirements.

B. The Contractor shall comply with all additional requirements of the local regulatory agency.

1.3 RELATED WORK

A. Dewatering is included in this Division, Section 31 23 19.

B. Final erosion protection measures where required are included in this Section.

C. Utility Line Stream Crossings – Division 33.

PART 2 – PRODUCTS

2.1 SEED

A. The seed mixture to be sown shall be in the following proportions:

Common Name	Proportion By Weight	% of Purity	% of Germination
Kentucky 31 Tall Fescue	75	90	85
Italian Rye Grass	10	90	85
Red Top	10	90	85
White Clover	5	95	90

B. All seed shall be fresh and clean and shall be delivered mixed, in unopened packages, bearing a guaranteed analysis of the seed mixture.

C. Seed for temporary stabilization shall be annual rye grass, oats or wheat.

2.2 FERTILIZER

A. Just prior to the planting of turf, evenly broadcast 15 pounds per thousand square feet of fertilizer, 10-10-10 (nitrogen, phosphorus, potassium). Disc or harrow fertilizer 2 to 4 inches into the soil.

B. Fertilizer shall be delivered to the site in the original unopened container bearing the manufacturer's guarantee analysis. Any fertilizer that becomes caked or damaged making it unsuitable for use, will not be accepted.

2.3 SOD

A. Sod shall be at least 70% Bluegrass, strongly rooted and free of weeds.

B. It shall be mowed to a height not to exceed 3" before lifting, and shall be of uniform thickness with ½" to 1- ½" of soil.

2.4 MULCH

A. Mulch for seeded areas shall be Conwed Hydro Mulch, Silva-Fiber, or equal. It shall be suitable for use in a water slurry or for application with hydraulic equipment. The moisture content shall be 9-15%, and mulch shall have an organic matter content of minimum 98%.

B. Clean straw is acceptable as mulch. It shall be spread at the rate of one (1) bale per 1,000 feet (approximately 2" loose depth).

C. Mulch on slopes greater the 4:1 shall be held in place with erosion control netting.

D. Mulch on areas subject to surface water run-off or in drainage ditches shall be held in place with erosion control netting.

2.5 EROSION CONTROL BLANKETS

A. Erosion Control Blanket shall be made up of biodegradable and/or photodegradable products such as jute, wood fiber, coconut fiber, straw and degradable plastic netting. They shall degrade at a rate of approximately 6 months to 24 months.

B. Erosion Control Blanket shall be installed on slopes greater than 4:1 and in all ditches and drainage channels, and where otherwise indicated on the Contract Drawings or directed by regulatory agencies.

2.6 TURF REINFORCEMENT MAT

A. Where indicated on the Contract Drawings or as described in the Specifications, Turf Reinforcement Mat shall be installed for permanent erosion control.

B. Turf Reinforcement Mat shall consist of top and bottom heavy weight netting and biodegradable matrix such as coconut fiber or aspen curled wood excelsior.

C. Where slope and hydraulic conditions are severe, a synthetic matrix may be used, based on manufacturer's recommendations.

2.7 SILT FENCE

A. Temporary Silt Fence shall consist of woven geotextile fabric attached to 2” X 2” X 48” tall hardwood stakes.

1. Fabric shall be 48” tall, with top being even with top of stakes. Bottom 12” shall be buried in trench as shown on the Detail Drawings.
2. Stakes shall be at 6’ centers unless stated otherwise on Contract Documents.

B. Temporary Reinforced Silt Fence

1. For areas of steep slopes and high flows, where indicated on the Contract Drawings, or as directed by state or local regulations, Reinforced Silt Fence shall be installed.
2. Fabric shall be woven monofilament geotextile attached to 11 gauge steel fencing of 2” X 4” grid.
3. Stakes shall be 5” tall steel and shall be installed on 4’ centers.
4. Fabric and fencing shall be buried in trench as shown on the Detail Drawings.

C. Spacing of Silt Fences on slopes shall be according to the following table, or as directed by state or local regulatory agencies:

Slope Angle	Soil Type		
	Silty	Clays	Sandy
Very Steep (1:1)	50 ft.	75 ft.	100 ft.
Steep (2:1)	75 ft.	100 ft.	125 ft.
Moderate (4:1)	100 ft.	125 ft.	150 ft.
Slight (10:1)	125 ft.	150 ft.	200 ft.

D. If runoff flows along the uphill side of the silt fence, Contractor shall install “J-hooks” every 40 to 80 feet. These are curved sections of silt fence above the continuous fence that serve as small dams to stop and hold the flow to allow sediment to settle.

2.8 FIBER ROLLS

A. On long slopes less than 10:1, and where indicated on the Contract Drawings or recommended by the regulatory agency, Fiber Rolls shall be installed.

B. Fiber Rolls shall be made of wood shavings, coconut fiber or other similar material encased in heavy duty netting.

C. Wooden stakes at 4’-0” on center shall be used to anchor the Fiber Rolls along the contours of the slope.

2.9 AGGREGATE SILT CHECKS

A. Where needed to slow flow velocity, to cause ponding or to protect storm water inlet structures, Aggregate Silt Checks shall be installed.

B. Aggregate Silt Checks shall consist of rock of various sizes ranging from 2” to 6” contained in or placed on geotextile filter fabric. Pea-stone or gravel-filled bags are acceptable for temporary silt checks in low-flow conditions.

2.10 RIP RAP

A. Rip Rap shall be installed at the outlets of storm drains and on channel banks as noted on the Contract Drawings and/or recommended by state and local regulatory agencies.

B. Rip Rap shall have no less than 80%, by volume, of individual stones that range in size from 0.0247 to 1.483 cubic feet.

2.11 CONSTRUCTION ENTRANCE PAD

A. Contractor shall construct entrance pads at all locations where vehicles will enter or exit the site.

B. Pad shall be a minimum of 20 feet wide, 50 feet long and 6” thick, and consist of No. 2 stone laid on top of filter fabric.

PART 3 - EXECUTION

3.1 GENERAL

A. Erosion and sediment control practices shall be consistent with the requirements of the state and local regulatory agencies and in any case shall be adequate to prevent erosion of disturbed and/or regraded areas.

B. Contractor is responsible for notifying the state regulatory agency concerning inclusion under the KPDES General Permit for Storm Water Discharges From Construction Activities.

C. Gravity sewer lines, force mains and water lines that cross steams shall be constructed by methods that maintain normal stream flow and allow for a dry excavation. Water pumped from the excavation shall be contained and allowed to settle prior to reentering the stream. Excavation equipment and vehicles shall operate outside of the flowing portion of the stream. Spoil material from the line excavation shall not be allowed to enter the flowing portion of the stream. The provisions of this condition shall apply to all types of utility line stream crossings.

D. Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access. Effective erosion and sedimentation control measures must be employed at all times during the project to prevent degradation of waters of the Commonwealth. Site regrading and reseeding will be accomplished with 14 days after disturbance.

3.2 TEMPORARY AND PERMANENT STABILIZATION REQUIREMENTS

A. Temporary Stabilization is required for all disturbed areas where active work is not being performed. Rough graded areas and topsoil piles that are not in active use must be seeded immediately. The Contractor shall follow the guidelines in the table below:

Temporary Stabilization Table

Area requiring temporary stabilization	**Time frame to apply erosion controls**
Any disturbed areas within 25 feet of a stream	Within 24 hours of the most recent disturbance if the area will remain idle for more than 21 days
For all construction activities, any disturbed areas that will be dormant for more than 21 days but less than one year, and not within 25 feet of a stream	Within seven days of the most recent disturbance within the area
Disturbed areas that will be idle over winter	Prior to the onset of winter weather
All areas where activity has temporarily ceased	Within 14 days

B. Permanent control measures to minimize erosion and sedimentation shall be through the stabilization of soil as soon as possible with perennial vegetation. The contractor shall follow the guidelines for Permanent Stabilization as specified in the table below.

Permanent Stabilization Table

Area requiring permanent stabilization	**Time frame to apply erosion controls**
Any areas that will lie dormant for 180 days or more	Within 14 days of the most recent disturbance
Any areas within 25 feet of a stream and at final grade	Within 24 hours of reaching final grade
Any other areas at final grade	Within 7days of reaching final grade within that area

If permanent seeding is not practical due to the time of year, the disturbed area shall be seeded immediately with an annual rye grass at a rate of 3 lb. per 1,000 sq. feet and mulched with straw at a rate of 2.5 tons per acre. Mulch shall be anchored at 6 to 12-inch intervals across the slope by crimping into soil.

3.3 SEEDING

A. The areas to be seeded shall be thoroughly tilled to a depth of at least 4" by discing, harrowing, or other approved methods until the condition of the soil is acceptable to the Engineer. After harrowing or discing, the seed bed shall be dragged and/or hand raked to finish grade.

B. The incorporation of the fertilizer and the agricultural lime may be a part of the tillage operation and shall be applied no less than 24 hours nor more than 48 hours before the seed is to be sown.

C. Seed shall be broadcast either by hand or approved sowing equipment at the rate of ninety (90) pounds per acre (two pounds per 1,000 square feet), uniformly distributed over the area. Broadcasting seeding during high winds will not be permitted. The seed shall be drilled or raked into a depth of approximately 2 inch and the seeded areas shall be lightly raked to cover the seed and rolled. Drilling seeding shall be done with approved equipment with drills not more than 3 inches apart. All ridges shall be smoothed out, and all furrows and wheel tracks likely to develop into washes, shall be removed.

D. After the seed has been sown, the areas so seeded shall be mulched with clean straw at the rate of one (1) bale per 1,000 feet (approximately 2 inch loose depth). Mulch on slopes and in all ditches and drainage channels shall be held in place with erosion control blankets.

E. Areas seeded shall be watered and protected until a uniform stand develops, and then inspected periodically and maintained appropriately. Displaced mulch shall be replaced or any damage to the seeded area shall be repaired promptly, both in a manner to cause minimum disturbance to the existing stand of grass. If necessary to obtain a uniform stand, the Contractor shall refertilize, reseed and remulch as needed. Scattered bare spots up to one (1) square yard in size will be allowed up to a maximum of 10 percent of any area.

F. The following table is a guide to schedule seeding and mulching:

Stabilization Practice	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC
Permanent Seeding			A									
Dormant Seeding	B										B	
Temporary Seeding			G	E				D				
Sodding			F									
Mulching	G											

Seed and Mulch:
A = Fescue, Clover, Ryegrass Mixture: 160 lbs/acres or 4 lbs/1,000 s.f. plus 2 tons mulch per acre
B = Fescue, Clover, Ryegrass Mixture: 160 lbs/acres or 4 lbs/1,000 s.f. plus 2 tons mulch per acre
C= Oats: 120 lbs/acre
D=Wheat or Rye: 120 lbs/acre
E=Perennial Ryegrass: 40 lbs/acre or 1 lb/1,000 s.f.
F=Install Sod
G= Mulch 2 tons per acre
Irrigation Needed: May through August and October and two to three weeks after installing sod in March or April

3.4 SOD

A. To install, bring soil to final grade and clear of trash, wood, rock, and other debris. Apply topsoil, fertilizer at approximately 1000 lbs per acre.

B. Use sod within 36 hours of cutting. Lay sod in straight lines. Butt joints tightly, but do not overlap joints or stretch sod. Stagger joints in adjacent rows in a brickwork type pattern. Use torn or uneven pieces on the end of the row.

C. Notch into existing grass. Anchor sod with pins or stakes if placed on slopes greater than 3:1. Roll or tamp sod after installation and water immediately. Soak to a depth of 4 to 6 inches. Replace sod that grows poorly. Do not cut or lay sod in extremely wet or cold weather. Do not mow regularly until sod is well established.

3.5 INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES

A. All erosion and sediment control products and materials shall be installed per manufacturer's recommendations and in accordance with the Kentucky Erosion Prevention and Sediment Control Field Guide.

B. Contractor shall pay special attention to the trenching-in of the bottoms of silt fence, the staking of sediment barriers, and the stapling of erosion control blankets.

3.6 MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES

A. Erosion and sedimentation controls shall be inspected weekly and after rain events of 0.5 inch or greater. Replace silt fencing as needed, filter stone which is dislodged, erosion control blanket which is damaged, and make other necessary repairs.

B. Remove sediment from fences and barriers when it accumulates to half the height of the barrier, or more often as needed.

3.7 CLEAN UP

A. Upon completion of the project and/or establishment of satisfactory turf, vegetation or permanent erosion control structures, Contractor shall remove all temporary devices and properly dispose of such.

3.8 KPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

A. The Contractor is responsible for filing the appropriate Notice of Intent (NOI-SWCA) letter at least seven (7) days prior to start of construction activity for an electronic submittal, and at least thirty (30) days prior to start for a paper submittal. The Notice of Intent (NOI) is a Kentucky Pollution Discharge Elimination System (KPDES) permit application as provided by the Kentucky Revised Statutes, Chapter 224. This application is required to be submitted for

construction projects that disturb one or more acres of land. A permit application form is included at the end of this section.

B. The NOI requires the inclusion of the descriptions of (but is not limited to) the following items:

1. Names and designated uses of any receiving waters
2. Anticipated number and locations of discharge points
3. Identification of planned construction in or along a water body

A topographic map showing project boundaries, areas to be disturbed, locations of anticipated discharge points and receiving waters is also required to be submitted with the NOI.

C. If the construction site is near a designated "High Quality/Impaired Waters" or a "Cold Water Aquatic Habitat Waters, Exceptional Waters, Outstanding National/State Resource Waters", additional items and/or individual permits will be required.

D. The NOI form requires an SIC code. The link to the SIC codes is http://www.osha.gov/pls/imis/sicsearch.html. The following are the typical construction SIC codes utilized:

1542 – Building Construction, nonresidential, except industrial and warehouses
1623 – Water Main Construction, Sewer Construction
1629 – Water and Wastewater Treatment Plant Construction
1711 – Water Pump Installation
1781 – Drilling Water Wells

E. The Contractor is responsible for developing, implementing and continuously updating a Stormwater Pollution Prevention Plan (SWPPP) before commencement of site disturbance. The SWPPP should include erosion prevention measures and sediment control measures which are installed and maintained to minimize discharges of sediments and other pollutants from a 2-year, 24-hour storm event. The SWPPP must be kept at the site and available for review by State officials, and must be updated as necessary through the course of the construction project.

F. The Contractor should receive notification from the Kentucky Division of Water of permit coverage within seven (7) days of an electronic submittal, and thirty (30) days of a paper submittal. Until receipt of notification that NOI is acceptable, site disturbance is not permitted.

G. Unless otherwise noted, the Contractor is responsible for completing and maintaining the required Self-Inspection Forms. A sample is included at the end of this specification section.]

H. Upon completion of the project and establishment of all permanent erosion and sediment control structures and devices, the Contractor shall submit the Notice of Termination (NOT) form to the Division of Water. This form is included at the end of this specification section.

I. All subcontractors are required to comply with the requirements of the Permit and the Stormwater Pollution Prevention Plan (SWPPP).

3.9 WHERE TO SUBMIT

A. Submit Notice of Intent (NOI) Form to: Operational Permits Section, SWP Branch, Division of Water, 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

B. For an electronic submittal, go to https://dep.gateway.ky.gov/eForms/Default.aspx?FormID=3:

C. If project is within the jurisdiction of a defined "MS4" entity, a copy of the NOI must be submitted to that entity.

3.10 REQUIRED FOR THIS CONTRACT

A. The Contractor shall submit the signed NOI to the Kentucky Division of Water (address noted above) at least seven (7) days prior to the start of work activities for an electronic submittal, or thirty (30) days for a paper submittal. Do not begin site work until receiving notice of permit approval from the Division of Water.

B. Submit the NOI and locally required documents to the local regulatory agency.

C. Develop, implement, and continuously update the Stormwater Pollution Prevention Plan (SWPPP).

D. Inspect and document the condition of runoff controls every seven (7) days and after each rain event of one-half inch or more. Maintain inspection reports at the site.

E. The Contractor shall file a Notice of Termination (NOT) when General Permit coverage is no longer needed (General Permits describe how this is done).

END OF SECTION 312502

FORM NOI-SWCA

KENTUCKY POLLUTION DISCHARGE ELIMINATION SYSTEM (KPDES)

Notice of Intent (NOI) for coverage of Storm Water Discharges Associated with Construction Activities Under the KPDES Storm Water General Permit KYR100000

This is an application for:

- ☐ New construction activity.
- ☐ Modification of coverage for additional area in same watershed.
- ☐ Modification of coverage for additional area in different watershed.

If Modification is checked, state reason for Modification:										
For Agency Use	Permit No. (Leave Blank)	K	Y	R	1	0				
For Agency Use	AI ID (Leave Blank)									

SECTION I – FACILITY OPERATOR INFORMATION

Operator Name(s)*:	Phone:*	
Mailing Address:*	Status of Owner/Operator: ☐Private ☐State ☐Federal ☐Public(other than state or federal)	
City:*:	State:*	Zip Code:*

SECTION II – FACILITY/SITE LOCATION INFORMATION

Name of Project:*	Physical Address:*	City:*
State:*	Zip Code:*	County:*
Latitude (decimal degrees):*	Longitude (decimal degrees):*	SIC Code:*

SECTION III – SITE ACTIVITY INFORMATION

For single projects provide the following information

Total Number of acres in project:*	Total Number of acres to be disturbed:*	Start date:	Completion date:

For common plans of development projects provide the following information

Total Number of acres in project:*	Number of individual lots in development:	Number of lots to be developed:
Total acreage intended to be disturbed:*	Number of acres intended to be disturbed at any one time:	
Start date:	Completion date:	List Contractors:

SECTION IV – DISCHARGE TO A WATER BODY

Name of Receiving Water:*	Anticipated number of discharge points:
Location of anticipated discharge points: Latitude (decimal degrees):*	Longitude (decimal degrees):*
Receiving Water Body Stream Use Designation	☐Cold Water Aquatic Habitat ☐Domestic Water Supply ☐Outstanding State Resource Water ☐Secondary Contact Recreation ☐Primary Contact Recreation ☐Warm Water Aquatic Habitat
Antidegradation Categorization	☐Outstanding National Resource Water ☐Exceptional Water ☐High Quality Water ☐Impaired Water
Name of Receiving Water:*	Anticipated number of discharge points:
Location of anticipated discharge points: Latitude (decimal degrees):*	Longitude (decimal degrees):*
Receiving Water Body Stream Use Designation	☐Cold Water Aquatic Habitat ☐Domestic Water Supply ☐Outstanding State Resource Water ☐Secondary Contact Recreation ☐Primary Contact Recreation ☐Warm Water Aquatic Habitat
Antidegradation Categorization	☐Outstanding National Resource Water ☐Exceptional Water ☐High Quality Water ☐Impaired Water

FORM NOI-SWCA

SECTION V – DISCHARGE TO AN MS4			
Name of MS4:		Date of application /notification to the MS4 for construction site coverage:	
Number of discharge points:	Location of each discharge point: Latitude (decimal degrees):*	Longitude (decimal degrees):*	
SECTION VI – CONSTRUCTION ACTIVITIES IN OR ALONG A WATER BODY			
Will the project require construction activities in a water body or the riparian zone: ☐ Yes ☐ No			
If yes, describe scope of activity:			
Is a Clean Water Act 404 permit required: ☐ Yes ☐ No		Is a Clean Water Act 401 Water Quality Certification required: ☐ Yes ☐ No	
SECTION VII – NOI PREPARER INFORMATION			
First Name:*	Last Name:*	Phone :*	eMail Address:*
Mailing Address:*	City:*	State:*	Zip Code:*
SECTION VIII – ATTACHMENTS			
Attach a full size color USGS 7½-minute quadrangle map with the facility site clearly marked. USGS maps may be obtained from the University of Kentucky, Mines and Minerals Bldg. Room 106, Lexington, Kentucky 40506. Phone number (859) 257-3896.			
SECTION IX – CERTIFICATION			
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.			
Signature:*	First Name:*	Last Name:*	
Phone:*	eMail Address:	Date:*	

This completed application form and attachments should be sent to: SWP Branch, Division of Water, 200 Fair Oaks, Frankfort, Kentucky 40601. Questions should be directed to: SWP Branch, Operational Permits Section at (502) 564-3410.

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM
FORM NOI-SWCA – INSTRUCTIONS

WHO MUST FILE A NOTICE OF INTENT (NOI) FORM

Federal law at 40 CFR Part 122 prohibits point source discharges of stormwater associated with industrial activity to a water body of the Commonwealth of Kentucky without a Kentucky Pollutant Discharge Elimination System (KPDES) permit. The operator of an industrial activity that has such a storm water discharge must submit a NOI to obtain coverage under the KPDES Storm Water General Permit. If you have questions about whether you need a permit under the KPDES Storm Water program, or if you need information as to whether a particular program is administered by the state agency, call the **Storm Water Contact, Operational Permits Section, Kentucky Division of Water at (502) 564-3410.**

WHERE TO FILE NOI FORM

NOIs must be sent to the following address or submitted in on-line at https://dep.gateway.ky.gov/eForms/Default.aspx?FormID=3:

Operational Permits Section
SWP Branch, Division of Water
200 Fair Oaks Lane
Frankfort, KY 40601

Electronic NOI-SWCAs are to be submitted a minimum of seven (7) working days prior to commencement of construction related activities. Paper NOI-SWCAs are to be submitted a minimum of thirty (30) working days prior to commencement of construction related activities.

COMPLETING THE FORM

Enter information in the appropriate areas only. (*) denotes a required field. Enter N/A (Not Applicable) for fields that are required but do not apply to your submission. If you have any questions regarding the completion of this form call the **Storm Water Contact, Operational Permits Section, at (502) 564-3410.**

SECTION I – FACILITY OPERATOR INFORMATION

Operator Name(s): Enter the name or names of all operators applying for coverage under KYR10 using this NOI.
Mailing Address, City, State, and Zip Code: Provide the mailing address of the primary operator
Phone No.: Provide the telephone numbers of the person who is responsible for the operation.
Status of Owner/Operator: Select the appropriate legal status of the operator of the facility from the dropdown list.

Federal
Public (other than federal or state)
State
Private

SECTION II – FACILITY/SITE LOCATION INFORMATION

Name of Project: Provide the name of the project.
Physical Address, City, State, Zip Code and County: Provide the physical address of the project.
Latitude/Longitude: Provide the general site latitude and longitude of the operation.
SIC Code: Enter the Standard Industrial Code for the project

SECTION III –SITE ACTIVITY INFORMATION

For single projects provide the following information:

Total number of acres in project: Indicate the total acreage of the project including both disturbed and undisturbed areas.
Total number of acres to be disturbed: Indicate the total number of acres of the project to be disturbed.
Anticipated start date: Indicate the approximate date of when construction activities will begin.
Anticipated completion date: Indicated the approximate date of when final stabilization will be achieved.

For common plans of development provide the following information:

Total number of acres in project: Indicate the total acreage of the project including both disturbed and undisturbed areas.
Number of individual lots in development, if applicable: Indicate the number of individual lots or unit in the common plan of development
Number of lots to be developed: Indicate the number of lots that you intend to develop.
Total acreage of lots intended to develop: Indicate the total acreage of the lots you intend to develop
Total acreage intended to disturb: Indicate the total acreage of the lots you intend to disturb
Number of acres intended to disturb at any one time: Indicate the maximum number of acres to be disturbed at any one time.
Anticipated start date: Indicate the approximate date of when construction activities will begin.
Anticipated completion date: Indicated the approximate date of when final stabilization will be achieved.
List of contractors: Provide the names of all known contractors that will be working on site.

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM
FORM NOI-SWCA – INSTRUCTIONS

SECTION IV – IF THE PERMITTED SITE DISCHARGES TO A WATER BODY THE FOLLOWING INFORMATION IS REQUIRED

Name of Receiving Water: Provide the names of the each water body receiving discharges from the site. Provide only official USGS names do not provide local names
Anticipated number of discharge points: Indicate the number of discharge points to each receiving water body.
Location of anticipated discharge points: Provide the latitude and longitude of each discharge point. Add points as necessary.
Receiving Water Body Stream Use Designation: Check all appropriate boxes
Antidegradation Categorization: Select from the drop down box one of the following:

Outstanding National Resource Water
Exceptional Water
High Quality Water
Impaired Water

SECTION V – IF THE PERMITTED SITE DISCHARGES TO A MS4 THE FOLLOWING INFORMATION IS REQUIRED

Name of MS4: Provide the name of the MS4 to which the activity will discharge
Number of discharge points to the MS4: Indicate the number of discharge points
Location of each discharge point: Provide the latitude and longitude of each discharge point. Add points as necessary
Date of application/notification to the MS4 for construction site permit coverage: Indicate the date the MS4 has or will be notified.

SECTION VI – CONSTRUCTION ACTIVITIES IN OR ALONG A WATER BODY

Will the project require construction activities in a water body or the riparian zone: Select Yes or No from the drop down box.
If Yes, describe scope of activity: Provide a brief description of the activity (ies) that will take place in the water body or the riparian zone.
Is a Clean Water Act 404 permit required: Select Yes or No from the drop down box.
Is a Clean Water Act 401 Water Quality Certification required: Select Yes or No from the drop down box.

SECTION VII – NOI PREPARER INFORMATION

Provide the name, mailing address, telephone number and eMail address of the person preparing the NOI.

SECTION VIII –Attachments

Attach a USGS topographic map indicating the location of the activity and the proposed discharge points.

SECTION IX – CERTIFICATION

Provide the name, mailing address, telephone number and eMail address of the person who is responsible for the activity

Signature: Provide full name of the responsibility party. This will constitute a signature.

The NOI must be signed as follows.

Corporation: by a principal executive officer of at least the level of vice president
Partnership or sole proprietorship: by a general partner or the proprietor respectively

KPDES FORM NOT-SW

Kentucky Pollutant Discharge Elimination System (KPDES)

NOTICE OF TERMINATION (NOT)
of Coverage Under the KPDES General Permit for Storm Water Discharges Associated with Industrial Activity

Submission of this Notice of Termination constitutes notice that the party identified in Section II of this form is no longer authorized to discharge storm water associated with industrial activity under the KPDES program.

ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.
(Please see instructions on back before completing this form.)

I. PERMIT INFORMATION
KPDES Storm Water General Permit Number:
Check here if you are no longer the Operator of the Facility: ☐
Check here if the Storm Water Discharge is Being Terminated: ☐
II. FACILITY OPERATOR INFORMATION
Name:
Address:
City/State/Zip Code:
Telephone Number:
III. FACILITY/SITE LOCATION INFORMATION
Name:
Address:
City/State/Zip Code:

Certification: I certify under penalty of law that all storm water discharges associated with industrial activity from the identified facility that are authorized by a KPDES general permit have been eliminated or that I am no longer the operator of the facility or construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity of waters of the Commonwealth is unlawful under the Clean Water Act and Kentucky Regulations where the discharge is not authorized by a KPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Kentucky Revised Statutes.

NAME (Print or Type)	TITLE
SIGNATURE	DATE

Revised June 1999

INSTRUCTIONS
NOTICE OF TERMINATION (NOT) OF COVERAGE UNDER THE KPDES GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY

Who May File a Notice of Termination (NOT) Form
Permittees who are presently covered under the Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Storm Water Discharges Associated with Industrial Activity may submit a Notice of Termination (NOT) form when their facilities no longer have any storm water discharges associated with industrial activity as defined in the storm water regulations at 40 CFR 122.26 (b)(14), or when they are no longer the operator of the facilities.

For construction activities, elimination of all storm water discharges associated with industrial activity occurs when disturbed soils at the construction site have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all storm water discharges associated with industrial activity from the construction site that are authorized by a KPDES general permit have otherwise been eliminated. Final stabilization means that all soil-disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles have been employed.

Where to File NOT Form
Send this form to the following address:

Section Supervisor
Inventory & Data Management Section
KPDES Branch, Division of Water
14 Reilly Road, Frankfort Office Park
Frankfort, KY 40601

Completing the Form
Type or print legibly in the appropriate areas and according to the instructions given for each section. If you have questions about this form, call the Storm Water Contact, Industrial Section, at (502) 564-3410.

Section I - Permit Information
Enter the existing KPDES Storm Water General Permit number assigned to the facility or site identified in Section III. If you do not know the permit number, **call the Storm Water Contact, Industrial Section at (502) 564-3410.**

Indicate your reason for submitting this Notice of Termination by checking the appropriate box:

If there has been a change of operator and you are no longer the operator of the facility or site identified in Section III, check the corresponding box.

If all storm water discharges at the facility or site identified in Section III have been terminated, check the corresponding box.

Section II - Facility Operator Information
Give the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same name as the facility. The operator of the facility is the legal entity which controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Section III - Facility/Site Location Information
Enter the facility's or site's official or legal name and complete address, including city, state and ZIP code. If the facility lacks a street address, indicate the state, the latitude and longitude of the facility to the nearest 15 seconds, or the quater, section, township, and range (to the nearest quarter section) of the approximate center of the site.

Section IV - Certification
Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, State, Federal, or other public facility: by either a principal executive

Revised June 1999

KENTUCKY CONSTRUCTION SITE INSPECTION REPORT

Utility Line Projects

KENTUCKY EROSION AND SEDIMENT CONTROL PERMIT COMPLIANCE INSPECTION REPORT

General Site Information:

Company:	**County:**
Site:	**Date:**

Permit Compliance Information:

Copy Of Permit kept on site	**Yes**	**No**
Copy of Best Management Practices (BMP) Plan kept on site		
Site specific description of project timing/phasing and implementation		
Adequate site map showing:		
• Drainage patterns indicated on plan		
• Receiving waters (stream, river, lake, wetland, etc.) named		
• Approximate slopes after major grading		
• Area of soil disturbance		
• Undisturbed areas and vegetative buffer zones		
• Location of structural and non-structural controls (BMPs)		
• Areas where stabilization practices are to be employed		
• Storm water discharge locations		

Specific Site Information:

Name of receiving stream:	
Total area of site:	
Area disturbed:	

Inspection Results:

Inspection Criteria: **Satisfactory, Marginal, Unsatisfactory**	**S**	**M**	**U**
Condition of receiving stream is BMP Plan adequately implemented?			
Timely seedling and mulching			
• Revegetation on cut/fill/cleared areas			
• Condition of slope areas			
Structural Controls			
• Drainage ditch protection/liners installed			
• Inlet protection for curb drains, etc.			
• Outlet protection – no erosion or scour			
• Silt fences below bare soil areas			
• Rock check dams in ditches			
• Sediment traps/ponds maintained			
• Other controls			

Other Controls			
• Secondary containment for fuel; maintenance area designated			
• Proper disposal of concrete wastes; wash in designated area			
• Other (non-storm water discharge, etc.)			
• Off-site tracking of sediment prevented			
Compliance with State and Local Regulations			
• Waste, fertilizer, paint, pesticide/herbicide storage and disposal			
• Proper sewage management			
Operation and Maintenance of BMPs			
• Maintenance plan incorporated into written BMP Plan			
• Maintenance plan followed			
• Maintenance documented			
• Inspections done as required and documented			
• Inspection reports completed and maintained on site, in file			
Contractor Certification on File			
Plan Certification on File			

Comments:

_____

Inspector's Signature

Kentucky Best Management Practices Plan • Construction Site Inspection Report

Company:	**Site:**	**County:**
Site Operator:		**Date:**
Receiving Water:	**Total Site Area (acres):**	**# Disturbed Acres:**
Inspector Name:	**Inspector Qualifications:**	
Inspection Type: Weekly or ½ Inch Rain	**Days Since Last Rainfall ____**	**# Inches of Last Rainfall: _____**

Field Inspection Observations

BMP Category	Compliance Yes	No	N/A	Field Indicators for Compliance
Project Operations				Notice of Intent (KPDES permit) and other local/state permits on file BMP Plan on site and available for review Project timing/schedule and activities following BMP Plan Weekly inspection and rain-event reports on BMPs available for review Diversions, silt checks/traps/basins, and silt fences/barriers installed prior to clearing Grading and clearing conducted in phases to minimize exposed soil areas No vegetation removal or operations in stream or sinkhole buffer area (25-50 ft min) Rock pad in place on all construction site exits leading to paved roads No sediment, mud, or rock on paved public roads in project area Dust control if needed when working in residential areas during dry conditions
Drainage Management				Upland runoff diverted around bare soil areas with vegetated/lined ditches/berms Drainage channels exiting the site are lined with grass/blanket/rock and stabilized Discharges from dewatering operations cleaned in silt fence enclosure or other filter No muddy runoff leaving site after rains up to 1½ inches
Erosion Protection				Exposed soil seeded/mulched after 2 weeks if no work is planned for the next 7 days Soils on steep slopes seeded/mulched/blanketed as needed to prevent rutting
Sediment Barriers				Silt fence, rock filter, or other sediment barrier below all bare soil areas on slopes Barrier installed across slope on the contour, trenched in, posts on downhill side Multiple sediment barriers at least 125 ft apart on unseeded slopes steeper than 4:1 J-hook interceptors along silt fence where heavy muddy flows run along fencing No visible undercutting or bypassing or blowout of sediment barrier Accumulated sediment is less than halfway to the top of sediment barrier
Slope Protection				Slopes tracked, disked, or conditioned after final grade is established Slopes seeded, mulched, or blanketed within 21 days, no unmanaged rills or gullying Heavy downslope flows controlled by lined downdrain channels or slope drain pipes No muddy runoff from slopes into streams, rivers, lakes, or wetlands
Inlet Protection				Inlet dam/device or filtration unit placed at all inlets receiving muddy flows No visible undercutting, bypassing, or blowout of inlet protection dam or device Accumulated sediment is less than halfway to the top of the inlet protection dam/device
Outlet Protection				High flow discharges have rock or other flow dissipaters of adequate sizing at outlet Culvert outlets show no visible signs of erosion/scour, bank failure, or collapse
Ditch and Channel Stabilization				No unmanaged channel bank erosion or bottom scouring visible within or below site Ditches with slopes more than 3% have check dams spaced as needed, if not grassed Ditch check dams tied in to banks, with center 4" lower than sides, and no bypassing Ditches with slopes of up to 5% are thickly seeded with grass (minimum requirement) Ditches 5% to 15% are lined with thick grass and erosion control blankets as needed Ditches 15% to 33% are lined with thick grass and matting or other approved product Ditches exceeding 33% are paved or lined with rock or other approved product

Sediment Traps and Basins				Storage volume is at least 134 cubic yards for each acre of bare soil area drained Trap or basin is seeded/mulched and stabilized; no collapsing sidewalls or banks Outlet structure is stable and consists of rock-lined notched overflow or outlet riser Rock overflow is 6" lower in center to control overflow discharge Outlet riser pipe has concrete & rock base, ½ inch holes every 3" to 6", and trash rack Area near pipe outlet or overflow is stable, with no scour or erosion Sediment removed before trap or basin is halfway full; disposal is away from ditches
Maintenance of EPSC Management Practices				Sediment behind silt fence and other filters does not reach halfway to top Sediment traps and basins are less than half full of sediment Gullies repaired, silt fences and other controls inspected and repaired/replaced Written documentation of controls installed, inspection results, and repairs performed All controls removed and areas graded, seeded, and stabilized before leaving site
Materials Storage, Handling, and Cleanup				Materials that may leach pollutants stored under cover and out of the weather Fuel tanks located in protected area with double containment system Fuel and/or other spills cleaned up promptly; no evidence of unmanaged spills No evidence of paint, concrete, or other material washouts near drain inlets No storage of hazardous or toxic materials near ditches or water bodies
Waste Disposal				Trash, litter, and other debris in proper containers or properly managed No litter or trash scattered around on the construction site Provisions made for restroom facilities and/or other sanitary waste management Sanitary waste facilities clean and serviced according to schedule No disposal of any wastes into curb or other inlets, ditches, streams, or water bodies

Inspection Notes and Key Observations

List of Stabilized Areas: Vegetation is Established; Ditches are Stabilized; No Exposed Soil

Other Notes or Observations:

Corrective Actions Taken and/or Proposed Revisions to BMP Plan:

I certify under penalty of law that I understand the terms and conditions of the general Kentucky Pollutant Discharge Elimination System (KPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Signature of Inspector: _____

SECTION 315000 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. This Section includes, but is not limited to, the following:

1. Shoring and bracing necessary to protect existing buildings, streets, walkways, utilities, and other improvements and excavation against loss of ground or caving embankments.
2. Maintenance of shoring and bracing.
3. Removal of shoring and bracing, as required.

B. Types of shoring and bracing systems include, but are not limited to, the following:

1. Steel H-section (soldier) piles.
2. Timber lagging.
3. Steel sheet piles.
4. Portable Steel Trench Box.

C. Building excavation is specified in another Section.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 01 Specification Section 013323.

B. Layout drawings for excavation support system and other data prepared by, or under the supervision of, a qualified professional engineer. System design and calculations must be acceptable to local authorities having jurisdiction.

1.4 QUALITY ASSURANCE

A. Engineer Qualifications: A professional engineer legally authorized to practice in jurisdiction where Project is located, and experienced in providing successful engineering services for excavation support systems similar in extent required for this Project.

B. Supervision: Engage and assign supervision of excavation support system to a qualified professional engineer foundation consultant.

C. Regulations: Comply with codes and ordinances of governing authorities having jurisdiction.

1.5 JOB CONDITIONS

A. Before starting work, verify governing dimensions and elevations. Verify condition of adjoining properties. Take photographs to record any existing settlement or cracking of structures, pavements, and other improvements. Prepare a list of such damages, verified by dated photographs, and signed by Contractor and others conducting investigation.

B. Survey adjacent structures and improvements, employing qualified professional engineer, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

C. During excavation, resurvey benchmarks weekly, maintaining accurate log of surveyed elevations for comparison with original elevations. Promptly notify Engineer if changes in elevations occur or if cracks, sags, or other damage is evident.

1.6 EXISTING UTILITIES

A. Protect existing active sewer, water, gas, electricity and other utility services and structures.

B. Notify municipal agencies and service utility companies having jurisdiction. Comply with requirements of governing authorities and agencies for protection, relocation, removal, and discontinuing of services.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide adequate shoring and bracing materials which will support loads imposed. Materials need not be new, but should be in serviceable condition.

B. Structural Steel: ASTM A 36.

C. Steel Sheet Piles: ASTM A 328.

D. Timber Lagging: Any species, rough-cut, mixed hardwood, nominal 3 inches thick, unless otherwise indicated.

E. Portable Steel Trench Box shall be OSHA approved.

PART 3 - EXECUTION

3.1 SHORING

A. Wherever shoring is required, locate the system to clear permanent construction and to permit forming and finishing of concrete surfaces. Provide shoring system adequately anchored and braced to resist earth and hydrostatic pressures.

B. Shoring systems retaining earth on which the support or stability of existing structures is dependent must be left in place at completion of work.

3.2 BRACING

A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move a brace, install new bracing prior to removal of original brace.

B. Do not place bracing where it will be cast into or included in permanent concrete work, except as otherwise acceptable to Engineer.

C. Install internal bracing, if required, to prevent spreading or distortion of braced frames.

D. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

E. Remove sheeting, shoring, and bracing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, and utilities.

F. Repair or replace, as acceptable to Engineer, adjacent work damaged or displaced through installation or removal of shoring and bracing work.

END OF SECTION 315000

DIVISION 33

UTILITIES

SECTION 330523 – STEEL CASING PIPE

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide all labor, materials, equipment and services required to furnish and install all bored and jacked carrier pipes in encasement pipes under railroad and highway crossings as shown on the Drawings and/or specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Temporary Median Access and Traffic Control: Section 015525

B. Earthwork: Section 312000

C. Piping: Division 33

1.3 SUBMITTALS

A. Descriptive literature, catalog cuts, and dimensional prints clearly indicating all dimensions and materials of construction, shall be submitted on all items specified herein to the Engineer for review before ordering.

B. At the time of submission, the Contractor shall, in writing, call the Engineer's attention to any deviations that the submittals may have from the requirements of the Contract Drawings and Specifications.

C. Comply with all requirements of Section 01 33 23.

D. In accordance with the requirements of the General and Special Conditions and this Section, the following table includes, but is not limited to, the items required to be submitted:

Item Description	**Shop Drawings**	**Product Data**	**Schedules**	**Installation Data**	**Parts Lists**	**Wiring Diagram**	**Samples**	**O & M Manual**	**Certificates**	**Warranty**	**Report**	**Other**
Carrier Pipe		X							X			
Casing Pipe		X										
Casing Spacers		X		X								
Casing End Seals		X		X								

1.4 EXISTING CONDITIONS

A. The existing piping & other utilities shown on the Contract Drawings is based on the best available information. The Engineer makes no guarantee as to the accuracy of the locations or type of piping or utility depicted. All new piping which ties into existing lines must be made compatible with that piping.

B. So that piping conflicts may be avoided, Contractor shall locate the utility (vertically & horizontally) well ahead of the pipe laying operation to confirm exact locations of existing piping before installing any new piping.

C. Contractor shall provide all fittings and adapters necessary to complete all connections to existing piping.

PART 2 - PRODUCTS

2.1 CARRIER PIPE

A. Carrier pipe shall be as specified in the applicable Division 33 section unless otherwise noted.

2.2 CASING PIPE

A. Casing pipe shall be steel, plain end, have a minimum yield point strength of 35,000 psi and conform to ASTM A 252 Grade 2 or ASTM A 139 Grade B without hydrostatic tests. The steel pipe shall have welded joints and be in at least 18 foot lengths.

B. The diameter of the casing pipe shall be as follows:

Carrier Pipe Nominal Diameter (Inches)															
4	6	8	10	12	14	15	16	18	20	21	24	27	30	33	36
Casing Pipe Nominal Diameter (Inches)															
10	12	16	18	20	24	24	30	30	30	36	36	42	48	50	50

For carrier pipe sizes greater than 36-inches nominal diameter, the casing pipe diameter size shall be determined by the Engineer or as shown on the Contract Drawings.

C. The wall thickness of the casing pipe shall be as follows:

Casing Pipe Nominal Diameter (Inches)								
Under 20	20 & 22	24	30	36	38	42	48	50
Casing Pipe Nominal Thickness (Inches)								
.250	.281	.312	.406	.469	.500	.562	.625	.656

However, should casing pipe thickness be specified or required on Highway or Railroad permit approval sheets, said permit thickness requirement shall govern. Permit approval sheets will be made available to the Contractor.

D. Steel casing pipe shall have welded joints in accordance with AWWA C-206.

2.3 CASING SPACERS

A. Carrier pipes shall be installed inside steel casings with restrained joints to prevent joints from separating during operation and/or during removal for repairs. Casing spacers shall provide axial thrust restraint to prevent slippage of spacer from pipe and to prevent pipe joint separation during and after installation. They shall also provide dielectric insulation between the carrier pipe and the casing and facilitate installation of the carrier pipe into the casing. Ductile iron pipe and PVC pipe shall have restrained joints and casing spacers as follows.

B. Ductile Iron Carrier Pipe:

1. The pipe push-on joints shall be restrained by use of a rubber gasket that has stainless steel wedging segments spaced around the gasket. Restrained push-on joint rubber gasket shall be Fast-Grip by American Ductile Iron Pipe, Field Lok 350 Gasket by US Pipe, or Engineer approved equal.

2. Casing spacers shall be installed a maximum of eight (8) feet apart along the length of the carrier pipe and within two (2) feet of each side of a pipe joint, to support the pipe barrel and the weight of its contents. Casing spacers shall be of a stainless steel bolt-on style with a shell made in two (2) sections of heavy T-304 stainless steel. Connecting flanges shall be ribbed for extra strength. The shell shall be lined with a PVC liner .090" thick with 85-90 durometer. All nuts and bolts are to be 18-8 stainless steel. Runners shall be made of ultra high molecular weight polymer with inherent high abrasion resistance and a low coefficient of friction. Runners shall be supported by risers made of heavy T-304 stainless steel. The supports shall be mig welded to the shell and all welds shall be fully passivated. The height of the supports and runners combined shall be sufficient to keep the carrier pipe at least 0.75" from the casing pipe wall at all times. Stainless steel casing spacers shall be made by Cascade Waterworks Mfg. Co., or Engineer approved equal.

C. PVC Carrier Pipe:

1. Restrained casing spacers shall be provided at all pipe bell joints. Restrained casing spacers shall be manufactured of high strength ductile iron, ASTM A536, or 304 stainless steel. Restraining rods shall be of high strength, low alloy material meeting the requirements of ANSI/AWWA C111/A21.11, or 304 stainless steel. Casing spacer runners shall be of ultra high molecular weight polyethylene (UHMW). The height of the supports and runners combined shall be sufficient to keep the carrier pipe at least 0.75" from the casing pipe wall at all times. Restrained casing spacers shall be Uni-Flange® Series UFRCS1390 (for pipe bell joints) as manufactured by Cascade Waterworks Mfg. Co., by The Ford Meter Cox Company, Inc. Wabash, Indiana, or Engineer approved equal.

2. Casing spacers shall be installed at the midpoint of each pipe segment (ten feet maximum between spacers) to support the pipe barrel and the weight of its contents. Casing spacers

shall be as specified in part 2.3.B.2 above as manufactured by Cascade Waterworks Mfg. Co., by Uni-Flange® Series UFRCS1300 (pipe barrel) as manufactured by The Ford Meter Cox Company, Inc. Wabash, Indiana, or Engineer approved equal.

D. Wood skids are not an acceptable method of supporting the carrier pipe.

2.4 CASING END SEALS

A. The annular space between the steel casing pipe and the carrier pipe shall be sealed by use of interlocking link pipe seals. Seals shall be modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the pipe and wall sleeve. Links shall be loosely assembled with bolts to form a continuous rubber belt around the pipe with a pressure plate under each bolt head and nut. After the seal assembly is positioned in the sleeve, tightening of the bolts shall cause the rubber sealing elements to expand and provide an absolutely water-tight seal between the pipe and wall sleeve. Bolts and hardware shall be constructed of 316 stainless steel. Seals shall be "Link-Seal Model S-316 Modular Seal" as manufactured by PSI-Thunderline/Link-Seal, Houston, TX, or approved equal.

B. The Contractor shall determine the required diameter of each casing / carrier pipe installation according to the manufacturer's recommendations before ordering and installing the seal. Carrier pipe shall be accurately centered in the casing pipe and the link seals shall be sized, installed and tightened in accordance with the manufacturer's instructions or per method approved by the Engineer.

PART 3 - EXECUTION

3.1 CROSSINGS - GENERAL

A. All casing pipe shall be installed with a minimum cover of 42-inches to the top of the casing pipe. Where casing pipes cross beneath proposed ditch line inverts, the minimum cover requirement will 42-inches below the invert. Deeper installations may be required. Casing pipe shall be place to the elevations shown on the drawings, please refer to the profiles and cross sections of the Contract Drawings.

B. Boring and Jacking Installation:

1. Where designated on the drawings, crossings beneath existing state maintained roads, not to be disturbed, shall be accomplished by boring and jacking a casing pipe.

2. Contractor shall conform to requirements as indicated in Specification Section 015525 and as shown on the Drawings.

3. Bore pit shall be on North side of southbound lane of I-71 (non-median side) as shown on the Drawings. Receiving pit shall be on the South side of southbound lane of I-71 (median side) as shown on the Drawings.

C. Open Cut Installation

1. Trenching, bedding, and backfilling shall be in accordance with Specification Section 331113.

D. Steel casing pipe for crossings shall be bored and/or jacked (or open cut installed where indicated on the Drawings) into place to the elevations shown on the drawings. All joints between lengths shall be solidly butt-welded with a smooth non-obstructing joint inside. The casing pipe shall be installed without bends. The carrier pipe shall be installed after the casing pipe is in place, and shall extend a minimum of two (2) feet beyond each end of the casing to facilitate making joint connections. The carrier shall be braced and centered with casing spacers within the casing pipe to preclude possible flotation. Casing spacers shall be installed a as described in Part 2.3 hereinbefore. Manufacturer's recommendations may govern these requirements.

E. At each end of the casing pipe, the carrier pipe shall be sealed with casing end seals. Follow the manufacturer's recommendations for installation of interlocking link pipe seals.

3.2 BORING AND JACKING

A. The Contractor shall excavate his own pits, as he may deem necessary, and will set his own line and grade stakes which shall be checked by the Engineer. Permits, as required, will be furnished or obtained by the Owner, but shall be in the Contractor's hands before any excavating is commenced.

B. The boring method shall consist of pushing the pipe into the earth with a boring auger rotating within the pipe to remove the spoil.

1. The front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger from leading the pipe so that there will be no unsupported excavation ahead of the pipe.
2. The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered. If the obstruction cannot be removed without excavation in advance of the pipe, the pipe shall be abandoned in place and immediately filled with grout.
3. The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than 2 inch. If voids should develop or if the bored hole diameter is greater than the outside diameter of the pipe by more than approximately 1 inch, grouting or other approved methods must be used to fill such voids.
4. The face of the cutting head shall be arranged to provide a reasonable obstruction to the free flow of soft or poor material.
5. Any method which does not have this boring arrangement will not be permitted. Contractor's boring arrangement plans and methods must be submitted to, and approved by, the Engineer.

C. In the event an obstruction is encountered in boring which cannot be removed and it becomes necessary to withdraw the casing and commence elsewhere, the hole from which the casing is withdrawn shall be completely backfilled with coarse sand rammed in.

D. Insurance to be furnished by the Contractor to cover this type of work shall be adequate to meet the requirements of the Railroad and/or State or County Highway Departments. Insurance shall consist of comprehensive general liability and automobile liability insurance.

E. Before award of the contract, the Contractor shall furnish a statement of his experience of such work, or if inexperienced, shall advise the Owner as to whom he will sublet the work and give a statement of the experience of the subcontractor, which shall be satisfactory to the Owner.

3.3 CONTRACTOR'S RESPONSIBILITIES

A. Obtain a copy of the Highway Encroachment before beginning construction.

B. Attend a preconstruction meeting at the construction site with the City Inspector, Highway Inspector Engineer, and Contractor being present.

END OF SECTION 330523

SECTION 331113 - WATER DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide all labor, materials, equipment and services required for furnishing and installing all piping and appurtenances specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Valves - Utility Services: Section 331216

B. Horizontal Directional Drilling: Section 330523.13

1.3 SUBMITTALS

A. A notarized certification shall be furnished for all pipe and fittings that verifies compliance with all applicable specifications.

B. The requirement for this certification does not eliminate the need for shop drawings submittals in compliance with Section 013323.

C. In accordance with the requirements of the General and Special Conditions and this Section, the following table includes, but is not limited to, the items required to be submitted:

Item Description	**Shop Drawings**	**Product Data**	**Schedules**	**Installation Data**	**Parts Lists**	**Wiring Diagram**	**Samples**	**O & M Manual**	**Certificates**	**Warranty**	**Report**	**Other**
Pipe and Fittings		X							X			
Couplings and Adapters		X										
Detectable UG Tape		X		X								
Tracer Wire		X		X								
Trench Baffles		X		X								
PE Tubing		X										
Corp. Stops and Fittings		X		X								

1.4 EXISTING CONDITIONS

A. The existing piping shown on the Contract Drawings is based on the best available information. The Engineer makes no guarantee as to the accuracy of the locations or type of piping depicted. All new piping which ties into existing lines must be made compatible with that piping.

B. So that piping conflicts may be avoided, Contractor shall open up his trench well ahead of the pipe laying operation to confirm exact locations of existing piping before installing any new piping.

C. Contractor shall provide all fittings and adapters necessary to complete all connections to existing piping.

1.5 UTILITY LINE ACTIVITIES COVERED UNDER NATIONWIDE PERMIT # 12

All activities involving utility line construction covered under NATIONWIDE PERMIT # 12 shall meet the following conditions:

A. The general Water Quality Certification is limited to the crossing of intermittent and perennial streams by utility lines.

B. The construction of permanent or temporary access roads will impact less than 300 linear feet of intermittent and perennial streams and less than one acre of jurisdictional wetlands.

C. Utility lines shall be located at least 50 feet away from a stream which appears as a blue line on a USGA 7 ½ minute topographic map except where the utility line alignment crosses the stream. Utility lines that cross streams shall be constructed by methods that maintain normal stream flow and allow for a dry excavation. Water pumped from the excavation shall be contained and allowed to settle prior to re-entering the stream. Excavation equipment and vehicles shall operate outside of the flowing portion of the stream. Spoil material from the utility line excavation shall not be allowed to enter the flowing portion of the stream.

D. The activities shall not result in any permanent changes in preconstruction elevation contours in waters or wetlands or stream dimension, pattern or profile.

E. Utility line construction projects through jurisdictional wetlands shall not result in conversion of the area to non-wetland status.

F. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction form entering the watercourse.

G. Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access. Effective erosion and sedimentation control measures must be employed at all times during the project to prevent degradation of waters of the Commonwealth. Site regarding and reseeding will be accomplished with 14 days after disturbance.

H. To the maximum extent practicable, all in stream work under this certification shall be performed during low flow.

I. Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances where such in stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.

J. Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If riprap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created because of its placement.

K. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.

L. Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/928-2380.

1.6 CONSTRUCTION IN A FLOODPLAIN

A. No material shall be placed in the stream or in the flood plain to form construction pads, coffer dams, access roads, etc. unless prior approval has been obtained from the Environmental and Public Protection Cabinet.

B. The trench shall be backfilled as closely as possible to the original contour. All excess material from construction of the trench shall be disposed of outside the flood plain unless the applicant has received prior approval from the Cabinet to fill within the flood plain.

PART 2 - PRODUCTS

2.1 POLYVINYL CHLORIDE PLASTIC (PVC) PIPE

A. ASTM D2241 (Outside Diameter compatible with Iron Pipe O.D.)

1. 1-inch through 36-inch - PVC plastic pipe shall conform to ASTM Specification - D2241 (latest edition); Product Standards PS-22-70 NBS; Standard Dimension Ratio SDR 21 (200 psi); Maximum Length - 20 feet; Pressure Rating - 200 psi at 73.4o F. (SDR-21). Elastomeric gasket shall conform with the requirements of ASTM F-477. The seal of the National Sanitation Foundation Testing Laboratory must appear on each pipe.

   a. Fittings, adaptors or specials shall be furnished, as required, to connect the plastic pipe to the cast or ductile iron mechanical joint valves, fittings, and pipe.
   b. Joints shall be push-on joints conforming to ASTM D-3139.

B. Fittings shall be pressure class 350 ductile iron and have mechanical-joints or push-on joints in accordance with ANSI/AWWA C110/A21.10, latest revision, and shall conform to the details and dimensions shown therein. Fittings shall have interior cement-mortar lining as specified

hereinbefore for the pipe. Compact ductile iron fittings meeting the requirements of ANSI/AWWA C153/A21.53, latest revision, will also be acceptable.

C. The basis of acceptance of PVC plastic water main pipe will be a written, notarized certification, accompanied by a copy of test results, that the pipe and pipe material has been sampled, tested and inspected in accordance with the designated standard specifications. These certifications shall be obtained from the manufacturer and delivered to the Engineer's or Owner's representative on the project site. A sufficient number of tests and certifications shall be made so as to be representative of the complete project. Copies of the test results shall be kept on file by the manufacturer and shall be available for review by the Engineer or Owner upon request.

D. Pipe shall be visually inspected on the project site for proper markings which shall include manufacturer's name or trademark, nominal pipe size, pressure rating for water at 73.4 degrees F., plastic pipe material designation code (e.g. PVC 1120), dimension ratio, AWWA or ASTM designation and pressure class with which the pipe complies, and the National Sanitation Foundation NSF 14 Seal of Approval for drinking water.

2.2 COUPLING AND ADAPTORS

A. Flexible couplings shall be of the sleeve type with a middle ring, two wedge shaped resilient gaskets at each end, two follower rings, and a set of steel trackhead bolts. The middle ring shall be flared at each end to receive the wedge portion of the gaskets. The follower rings shall confine the outer ends of the gaskets, and tightening of the bolts shall cause the follower rings to compress the gaskets against the pipe surface, forming a leak-proof seal. Flexible couplings shall be steel with minimum wall thickness of the middle ring or sleeve installed on pipe being 5/16-inch for pipe smaller than 10 inches, 3/8-inch for pipe 10 inches or larger. The minimum length of the middle ring shall be 5-inches for pipe sizes up to 10 inches and 7 inches for pipe 10 inches to 30 inches. The pipe stop shall be removed. Gaskets shall be suitable for 250 psi pressure rating or at rated working pressure of the connecting pipe. Couplings shall be harnessed and be designed for 250 psi.

B. Flanged adapters shall have one end suitable for bolting to a pipe flange and the other end of flexible coupling similar to that described hereinbefore. All pressure piping with couplings or adapters shall be harnessed with full threaded rods spanning across the couplings or adapters. The adapters shall be furnished with bolts of an approved corrosion resistant steel alloy, extending to the adjacent pipe flanges. Flanges on flanged adapter (unless otherwise indicated or required) shall be faced and drilled ANSI B16.1 Class 125.

C. Flexible couplings and flanged adapters shall be as manufactured by Dresser, Rockwell, or equal, per the following, unless otherwise specified and/or noted on the Drawings:

D. Steel couplings for joining same size, plain-end, steel, cast iron, and PVC plastic pipe -

Dresser	Rockwell
Style 138	4ll

E. Transition couplings for joining pipe of different outside diameters-

Dresser	Rockwell
Style 162 (4"-12")	413 steel (2"-24")
Style 62 (2"-24")	415 steel (6"-48")
	433 cast (2"-16")
	435 cast (2"-12")

F. Flanged adapters for joining plain-end pipe to flanged pipe, fittings, valves and equipment.

Dresser	Rockwell
Style 127 cast (3"-12")	912 cast (3"-12")
Style 128 steel (3"-48" C.I. Pipe)	913 steel (3" and larger)
Style 128 steel (2"-96" steel pipe)	

2.3 DETECTABLE UNDERGROUND UTILITY WARNING TAPES

A. Detectable underground utility warning tapes which can be located from the surface by a pipe detector shall be installed directly above nonmetallic (PVC, polyethylene, concrete) pipe.

B. The tape shall consist of a minimum thickness 0.35 mils solid aluminum foil encased in a protective inert plastic jacket that is impervious to all know alkalis, acids, chemical reagents and solvents found in the soil.

C. The minimum overall thickness of the tape shall be 5.5 mils and the width shall not be less than 2" with a minimum unit weight of 2-1/2 pounds/1" x 1,000'. The tape shall be color coded and imprinted with the legend as follows:

Type of Utility	Color Code	Legend
Water	Blue	Caution Buried Water Line Below

D. Detectable underground tape shall be “Detect Tape” as manufactured by Allen Systems, or equal.

E. Installation of detectable tapes shall be per manufacturer’s recommendations and shall be as close to the grade as is practical for optimum protection and detectibility. Allow a minimum of 18" between the tape and the line.

F. Payment for detectable tapes shall be included in the linear foot price bid of the appropriate bid item(s) unless it is listed as a separate payment item in the bid schedule.

2.4 TRACER WIRE

A. Tracer wire shall be 8 gauge copper wire with 30-mil polyethylene jacket. Tracer wire shall be installed with all buried piping, “duct” taped to top of pipe. Tracer wire shall be secured to the top of the pipe by tape a minimum of 3 times in each standard length of pipe.

B. Split Bolt connectors are required when connecting two (2) pieces of tracer wire. Wire and connector shall be wrapped with electrical tape.

C. Tracer wire shall be brought up into locator boxes with grounding devices. Locator boxes shall be valve boxes with a polystyrene donut that fits around the box to serve as a termination point for tracer wire. Locator boxes shall be installed at a maximum of 500 linear feet apart or where shown on the Drawings.

D. Payment for tracer wire and boxes shall be included in the linear foot price bid of the appropriate bid item.

2.5 CONCRETE PIPE ANCHORS, THRUST BLOCKS, CRADLE OR ENCASEMENT

A. Where indicated on the Drawings, required by the Specifications or as directed by the Engineer, concrete pipe anchors, thrust blocks, cradles or encasements shall be installed.

B. Concrete shall comply with provisions in KYTC Standard Specifications Section 601 and be Class B. Reinforcing bars shall be installed as indicated on the details.

2.6 PRE-FABRICATED TRENCH BAFFLES

A. Where indicated on the Drawings, required by the Specifications, or as directed by the Engineer, Contractor shall install pre-fabricated trench baffles in the pipeline trench.

B. The baffle shall be self-supporting, made of ABS (Acryonitrile Butadiene Styrene) or comparable material, and shall provide a watertight seal around the pipe by use of an elastomeric PVC flexible coupling. The purpose of the baffle is to stop the flow of groundwater along the trench, and around the pipe. The trench baffle shall be “Ripley’s Dam” as manufactured by EJP, or equal.

2.7 CONNECTION OF NEW WATER MAINS TO EXISTING SYSTEM

A. The Contractor shall connect the new water main to existing water main where shown on the Drawings or directed by the Engineer, and shall furnish all necessary equipment and materials required to complete the connection.

2.8 POLYETHYLENE (PE) TUBING

A. Customer service tubing shall be Polyethylene (PE) and conform to AWWA C901, ASTM F 741 with a pipe designation of PE 3408 defined per ASTM D 3035 for IPS sizes and ASTM D 2737 for CTS sizes. Customer service tubing size 1-inch, shall be CTS DR-9 (250 psi). Casing tubing size 2-inch, shall be IPS DR-13.5 (160 psi).

2.9 CUSTOMER SERVICE RELOCATIONS AND RE-CONNECTIONS

Where water service lines are disturbed, the Contractor shall reconnect the existing service line to the new water main. The Contractor shall furnish and install the necessary piping, couplings, fittings, etc. necessary to complete the service line re-connection.

A. Service Lines Not Crossing a Road

1. Unless indicated otherwise on the plans, all service lines shall be of PE tubing.
2. Existing water meters shall be relocated and a new water meter setter and new meter box shall be installed unless otherwise indicated by the plans.
3. Water service connections shall be made in accordance with the details shown on the Drawings and/or set forth herein. Locations of the various sizes shall be as directed by the Engineer and as shown on the Drawings.

B. Service Lines Crossing a County Road, City Streets, or a State Highway.

1. Casing pipe shall be directional drilled under paving where required on plans or by the KY Transportation Cabinet. Casing pipe shall be IPS DR-13.5 PE tubing.
2. Service piping shall be pulled through PE casing pipe. Unless indicated otherwise on the plans, all service lines shall be of PE tubing.
3. Existing water meters shall be relocated and a new water meter setter and meter box shall be installed.
4. Water service connections shall be made in accordance with the details shown on the Drawings and/or set forth herein. Locations of the various sizes shall be as directed by the Engineer and as shown on the Drawings.

2.10 CORPORATION STOPS AND FITTINGS FOR HOUSE SERVICE RECONNECTIONS

A. Corporation stops, of the size required, shall be tapped directly into the water main for Ductile Iron Pipe or by the use of a tapping saddle for PVC pipe.

B. Corporation stops shall have AWWA C800-66 C.S. threaded inlet. Outlets shall be suitable for the type of service piping furnished and laid, and the Contractor shall verify compatibility with "iron pipe size" or "copper tubing size" service piping as required before ordering stops.

C. Corporation stops shall be Ford Meter Box Type F1000, F1001, F1002 (as required); Mueller H-15005, H-15006, H-15008, H-15009 (as required); Hayes Series 5200, or equal.

D. Fittings shall be brass.

2.11 SERVICE TAPPING SADDLES

A. Service tapping saddles shall consist of bronze outlet castings for OD controlled PVC pipe. Saddles shall consist of two wide bronze casted straps that are permanently hinged together on one side and bolted on the other side. The outlet shall have a thick tapping boss with enough surface on the exterior to apply a pipe wrench when installing the corporation stop. Castings shall be sealed to pipeline with O-ring seals. Saddle outlets shall be threaded per AWWA C800.

B. Service tapping saddles shall be style S-13000 as manufactured by Mueller Co., style S-70 as manufactured by Ford Meter box Co., or Engineer approved equal.

2.12 COMPRESSION COUPLING FITTINGS FOR SERVICE RECONNECTIONS

A. Compression couplings shall comply with AWWA C800-NL. Outlets shall be suitable for the type of service piping furnished and laid, and the Contractor shall verify compatibility with "iron pipe size" or “copper tubing size" service piping as required before ordering stops.

B. Compression couplings shall be Ford Meter Box Type (as required); Mueller 110 Series, (as required); or equal.

2.13 METER BOXES

A. Meter box shall be plastic meter box as manufactured by Ford Meter Box Company, Carlson (Old Castle), or approved equal. Meter box shall have smooth interior and annular extension corrugations, and shall be notched at 0 and 180 degrees at the base to accommodate inlet and outlet pipes.

B. Inner diameter of box shall be 18-inches. Minimum depth of box shall be 18-inches.

C. Box shall be high density polyethylene conforming with the minimum requirements of cell classification 424420 B as defined and described in the latest version of ASTM D3350.

2.14 METER BOX COVERS

A. Meter box cover shall be Ford as manufactured by the Ford Meter Box Company, or approved equal. Frame shall be cast iron per ASTM A48-92, Class 25, and have a black E-coating finish.

B. Cover shall be standard size pentagon bolt with special worm lock, and be made of black impact polypropylene ultraviolet resistant material.

C. Cover shall have the words “Water Meter” printed on top.

2.15 COPPER SETTERS

A. Meter setter shall be a copper setter as shown on the standard detail drawing on U38 with 3/4-inch double purpose ends and be 7-inches high. It shall be all purpose, designed for 5/8-inch x 3/4-inch meters, and be of sufficient height to raise meters above the bottom of the meter box. Setter shall be Ford as manufactured by the Ford Meter Box Company, or approved equal, and shall have an inverted key inlet valve and dual check backflow preventer outlet valve. Setters shall be installed so that the meter is centered in the box.

B. Copper shall conform to ASTM B-75 copper alloy #122.

C. For new customer service meter setting, the water service line shall be extended a minimum of 5-feet beyond the meter box on the customer end. The end of the extension shall be capped or plugged to prevent entry of foreign material until the house connection is made.

2.16 MECHANICAL JOINT GRIPRING PIPE RESTRAINTS

A. Where all spigot end of pipe connect with valves, fittings, or other items that have mechanical-joint ends, connection shall be made with a restrained mechanical-joint gland. Mechanical-joint connection shall be restrained by the wedge action of a restraint ring being compressed onto the circumference of the pipe when the bolts of the mechanical-joint retainer gland are tightened. Restraint rings shall have a built-in stop to prevent excessive stress to the pipe. Restrained mechanical-joint connection shall be "GripRing" by Romac Industries, or Engineer approved equal.

2.17 LAWNS AND GRASSES

A. Lawns and grasses seeding mixture shall comply with provisions in KYTC Standard Specifications Section 212.

2.18 CRUSHED STONE PAVEMENT

A. Asphalt pavement shall comply with provisions in KYTC Standard Specifications Section 300.

2.19 ASPHALT PAVEMENT

A. Asphalt pavement shall comply with provisions in KYTC Standard Specifications Section 400.

2.20 CONCRETE PAVEMENT

A. Asphalt pavement shall comply with provisions in KYTC Standard Specifications Section 500.

PART 3 - EXECUTION

3.1 EXCAVATION FOR PIPELINE TRENCHES

A. Unless otherwise directed by the Engineer, trenches in which pipes are to be laid shall be excavated in open cut to the depths required by field conditions or as specified by the Engineer. In general this shall be interpreted to mean that machine excavation in earth shall not extend below an elevation permitting the pipe to be properly bedded. Installation shall be in accordance with ANSI/AWWA C600 for ductile iron and Cast Iron O.D. (AWWA) PVC pipe or ASTM F-645 for Iron Pipe O.D. (ASTM) PVC pipe except as modified herein.

B. If the foundation is good firm earth and the machine excavation has been accomplished as set out hereinbefore, the remainder of the material shall be excavated by hand, then the earth pared

or molded to give full support to the lower quadrant of the barrel of each pipe. Where bell and spigot is involved, bell holes shall be excavated during this latter operation to prevent the bells from being supported on undisturbed earth. If for any reason the machine excavation in earth is carried below an excavation that will permit the type of bedding specified above, then a layer of granular material shall be placed so that the lower quadrant of the pipe will be securely bedded in compact granular fill.

C. Excavation may be undercut to a depth below the required invert elevation that will permit laying the pipe in a bed of granular material to provide continuous support for the bottom quadrant of the pipe. When this method is used, the bedding shall be as set out in Paragraph 3.2 hereinafter.

D. Trenches shall be of sufficient width to provide free working space on each side of the pipe and to permit proper backfilling around the pipe, but unless specifically authorized by the Engineer, trenches shall in no case be excavated or permitted to become wider then 2'-0" plus the nominal diameter of the pipe at the level of or below the top of the pipe. If the trench does become wider than 2'-0" at the level of or below the top of the pipe, special precaution may be necessary, such as providing compacted, granular fill up to top of the pipe or providing pipe with additional crushing strength as determined by the Engineer after taking into account the actual trench loads that may result and the strength of the pipe being used. The Contractor shall bear the cost of such special precautions as are necessary.

E. All excavated materials shall be placed a minimum of two feet (2') back from the edge of the trench.

F. Before laying the pipe, the trench shall be opened far enough ahead to reveal obstructions that may necessitate changing the line or grade of the pipeline.

G. The trench shall be straight and uniform so as to permit laying pipe to lines and grades given by the Engineer. It shall be kept free of water during the laying of the pipe and until the pipeline has been backfilled. Removal of trench water shall be at the Contractor's expense. Dry conditions shall be maintained in the excavations until the backfill has been placed. During the excavation, the grade shall be maintained so that it will freely drain and prevent surface water from entering the excavation at all times. When directed by Owner, temporary drainage ditches shall be installed to intercept or direct surface water which may affect work. All water shall be pumped or drained from the excavation and disposed of in a suitable manner without damage to adjacent property or to other work.

H. Minimum cover of 30" shall be provided for all pipelines, except those located in the State Highway Right of Way. Those shall have a minimum cover of 42”.

3.2 PIPE BEDDING

A. All pipe shall be supported on a bed of *manufactured sand*, derived from limestone, with gradation results similar to those shown in to the table below. Contractor shall submit gradation test results to the Engineer for approval. Manufactured sand shall be washed and contain no fine particles and or dust. In no case shall pipe be supported directly on rock. Bedding shall be provided in earth bottom trenches, as well as rock bottom trenches. Bedding material shall be free from large rock, foreign material, frozen earth, and shall be acceptable to the Engineer.

Bedding shall be a minimum of 6” below pipe barrel. Contractor shall be responsible for all dust control associated with the use of Manufactured Sand.

Sieve	% Retained	Cumulative % Retained	% Passing
3/8” (9.5mm)	0	0	100
#4 (4.76mm)	5	5	95
#18 (2.36mm)	43	48	52
#16 (1.18mm)	23	71	29
#30 (0.6mm)	8	79	21
#50 (0.3mm)	4	83	17
#100 (0.15mm)	3	86	14
#200 (75um)	3.7	89.8	10.2
PAN (0um)	1.1	100.0	0

B. In all cases the foundation for pipes shall be prepared so that the entire load of the backfill on top of the pipe will be carried on the barrel of the pipe so that none of the load will be carried on the bells.

C. Where flexible pipe is used, the bedding shall be placed up to at least the spring line (horizontal center line) of the pipe. The bedding material and procedures shall conform to ASTM D 2321 and any Technical Specifications set out hereinafter. If conditions warrant, the Engineer may require the bedding to be placed above the springline of the pipe.

D. Where undercutting and granular bedding is involved it shall be of such depth that the bottom of the bells of the pipe will be at least three inches above the bottom of the trench as excavated. Undercutting is not a separate pay item.

E. In wet, yielding mucky locations where pipe is in danger of sinking below grade or floating out of line or grade, or where backfill materials are of such a fluid nature that such movements of the pipe might take place during the placing of the backfill, the pipe must be weighted or secured permanently in place by such means as will prove effective. When ordered by the Engineer, yielding and mucky materials in subgrades shall be removed below ordinary trench depth in order to prepare a proper bed for the pipe. Crushed stone or other such granular material, if necessary, as determined by the Engineer to replace poor subgrade material, shall be a separate pay item and classified as "Special Granular Fill". Removal of poor material is not a separate pay item.

F. Installation shall be in accordance with ASTM D 2321 except as modified hereinafter.

3.3 SPECIAL GRANULAR FILL

A. Special granular fill shall comply with provisions in KYTC Standard Specifications Section 701.

3.4 LAYING PIPE

A. The laying of pipe in finished trenches shall be commenced at the lowest point so the spigot ends point in the direction of flow.

B. All pipes shall be laid with ends abutting and true to line and grade as given by the Engineer. Supporting of pipes shall be as set out hereinbefore under "Pipe Bedding" and in no case shall the supporting of pipes on blocks be permitted.

C. Before each piece of pipe is lowered into the trench, it shall be thoroughly inspected to insure that it is clean. Each piece of pipe shall be lowered separately unless special permission is given otherwise by the Engineer. No piece of pipe or fitting which is known to be defective shall be laid or placed in the lines. If any defective pipe or fitting shall be discovered after the pipe is laid, it shall be removed and replaced with a satisfactory pipe or fitting without additional charge. In case a length of pipe is cut to fit in a line it shall be so cut as to leave a smooth end at right angles to the longitudinal axis of the pipe.

D. Pipe shall not be laid on solid rock. A pad of granular material as specified in Paragraph 3.02 "Pipe Bedding", shall be used as a pipe bedding. Pipe bedding is not a separate pay item. Irregularities in subgrade in an earth trench shall be corrected by use of granular material.

E. When ordered by the Engineer, unsuitable materials in subgrades shall be removed below ordinary trench depth in order to prepare a proper bed for the pipe.

F. When laying of pipe is stopped for any reason, the exposed end of such pipe shall be closed with a plywood or fabricated plug fitted into the pipe bell, so as to exclude earth or other material, and precautions taken to prevent flotation of pipe by runoff into trench.

G. No backfilling (except for securing pipe in place) over pipe will be allowed until the Engineer has had an opportunity to make an inspection of the joints, alignment and grade, in the section laid.

3.5 BACKFILLING PIPELINE TRENCHES

A. Backfilling of pipeline trenches shall be accomplished as shown on the Drawings and with details set forth hereinafter. Before final acceptance, the Contractor will be required to level off all trenches or to bring the trench up to grade. The Contractor shall also remove from roadways, rights-of-way and/or private property all excess earth or other materials resulting from construction. In the event that pavement is not placed immediately following trench backfilling in paved areas, the Contractor shall be responsible for maintaining the trench surface in a level condition at proper pavement grade at all times. Under pavement, all trench backfill shall be in accordance with Method C as shown on the Detail Drawings. All other trench backfill shall be in accordance with Method A or B.

B. Method "A" - Backfilling in Open Terrain:

Backfilling of pipeline trenches in open terrain shall be accomplished in the following manner:

1. The lower portion of the trench, from the pipe bedding to a point 12" above the top of the pipe, shall be backfilled with manufactured sand, as specified in paragraph 3.2 A, hereinbefore. This material shall be placed in a manner approved by the Engineer, and

shall be carefully compacted to avoid displacement of the pipe. Compaction shall be accomplished by hand-tamping or by approved mechanical methods.

2. The upper portion of the trench above the compacted portion shall be backfilled with material which is free from large rock. Incorporation of rock having a volume exceeding one-half cubic foot is prohibited. Backfilling this portion of the trench may be accomplished by any means approved by the Engineer. The trench backfill shall be heaped over or leveled as directed by the Engineer.

C. Method "B" - Backfilling Under Sidewalks:

Backfilling of pipeline trenches under sidewalks shall be accomplished in the following manner.

1. The lower portion of the trench, from the pipe bedding to a point 12" above the top of the pipe, shall be backfilled with manufactured sand, as specified in paragraph 3.2 A, hereinbefore. This material shall be placed in a manner approved by the Engineer, and shall be carefully compacted to avoid displacement of the pipe. Compaction shall be accomplished by hand-tamping or by approved mechanical methods.

2. The middle portion of the trench, from a point 12" above the top of the pipe to a point 6" below the grade line, shall be backfilled with material which is free from large rock. Incorporation of rock having a volume exceeding one-half cubic foot is prohibited. Backfilling this portion of the trench may be accomplished by any means approved by the Engineer. Water (puddling) may be used as required to obtain maximum compaction.

   Upon approval of the Engineer, the Contractor may backfill the middle portion of the trench with crushed stone, fine gravel, or sand in lieu of materials which require compaction.

3. The upper portion of the trench shall be temporarily backfilled and maintained with crushed stone or gravel until such time as the sidewalk is constructed or the driveway surface is restored.

D. Method "C" - Backfilling Under Streets, Roads, and Paved & Unpaved Driveways:

Backfilling of pipeline trenches under streets, roads and paved& unpaved driveways shall be accomplished in the following manner:

1. The lower portion of the trench, from the pipe bedding to a point 12" above the top of the pipe, shall be backfilled with manufactured sand, as specified in paragraph 3.2 A, hereinbefore. This material shall be placed in a manner approved by the Engineer, and shall be carefully compacted to avoid displacement of the pipe. Compaction shall be accomplished by hand-tamping or by approved mechanical methods.

2. The lower portion of the trench from the point above the initial backfill (12” above the pipe) to a point 6” below the bottom of the pavement or concrete sub-slab, shall be backfilled with #57 crushed stone.

3. The upper portion of the trench, from a point 6" below the bottom of the pavement or concrete sub-slab to grade, shall be backfilled with a base course of dense graded aggregate (DGA as defined in the Kentucky Transportation Cabinet Standard

Specification for Roads and Bridges). At such time that pavement replacement is accomplished, the excess base course shall be removed as required.

E. Trenches outside existing sidewalks, driveways, streets, and highways shall be backfilled in accordance with Method "A". Trenches within the limits of sidewalk and unpaved driveways shall be backfilled in accordance with Method "B". Trenches within the paving limits of existing streets, highways and driveways shall be backfilled in accordance with Method "C". All methods are shown on the Detail Drawings. When directed by the Engineer, the Contractor shall wet backfill material to assure maximum compaction.

Before final acceptance, the Contractor will be required to level off all trenches or to bring the trench up to grade. The Contractor shall also remove from roadways, rights-of-ways and/or private property all excess earth or other materials resulting from construction.

In the event that pavement is not placed immediately following trench backfilling in streets and highways, the Contractor shall be responsible for maintaining the trench surface in a level condition at proper pavement grade at all times.

3.6 SETTLEMENT OF TRENCHES

A. Whenever lines are in, or cross, driveways and streets, the Contractor shall be responsible for any trench settlement which occurs within these rights-of-way within one (1) year from the time of final acceptance of the work. If paving shall require replacement because of trench settlement within this time, it shall be replaced by the Contractor at no extra cost to the Owner. Repair of settlement damage shall meet the approval of the Owner.

3.7 CONCRETE THRUST BLOCKS, CRADLE, ANCHORS OR ENCASEMENT

A. Concrete thrust blocks, cradle, anchors or encasement shall be placed where shown on the Drawings, required by the Specifications, or as directed by the Engineer.

B. For cradle and encasement, concrete shall be mixed sufficiently wet to permit it to flow under the pipe to form a continuous bed.

C. For thrust blocks and anchors, concrete shall be formed or be sufficiently stiff to maintain the forms and dimensions indicated on the Details.

D. In tamping concrete, care shall be taken not to disturb the grade or line of the pipe or injure the joints. Concrete placed outside the specified limits or without authorization from the Engineer will not be subject to payment.

E. Water mains shall have concrete thrust or “kicker” blocks at all pipe intersections and changes of direction to resist forces acting on the pipeline. All reducers (increasers) shall be anchored.

3.8 BITUMINOUS CONCRETE HIGHWAY, STREET AND DRIVEWAY REPLACEMENT

A. The Contractor shall replace those sections of existing roads, streets and driveways required to be removed to install the pipe lines under this contract. He shall construct same to the original

lines and grades and in such manner as to leave all such surfaces in fully as good or better condition than that which existed prior to the operations.

B. Prior to trenching, the pavement shall be scored or cut to straight edges at least twelve (12) inches outside each edge of the proposed trench to avoid unnecessary damage to the remainder of the paving. Edges of the existing pavement shall be re-cut and trimmed to square, straight edges after the pipeline has been installed and prior to placing the new base and pavement.

C. Backfilling of the trench shall be in accordance with Method "C" as described hereinbefore. Base course for the paving shall be dense graded crushed limestone furnished and placed in accordance with the current requirements of the Standard Specifications for Road and Bridge Construction of the Department of Transportation, to a depth of six (6) inches in roads and streets and four (4) inches in driveways.

D. A subslab of reinforced concrete shall be placed for state maintained highways as indicated on the Drawings. The subslab shall have a minimum thickness of 6 inches. Concrete for the subslab shall be 3000 psi, in accordance with the Details shown on the Drawings.

3.9 UNPAVED DRIVEWAY (CRUSHED STONE) SURFACE REPLACEMENT

A. The Contractor shall replace those sections of existing driveways and parking areas required to be removed to install the pipe lines under this contract. He shall construct same to the original lines and grades and in such manner as to leave all such surfaces in fully as good or better condition than that which existed prior to the operations.

B. Material for backfilling of the pipeline trench shall be dense-graded aggregate in accordance with Method “B” as described hereinbefore.

3.10 REMOVING AND REPLACING CONCRETE CURB AND GUTTER OR SIDEWALK

A. The Contractor shall remove the curb and gutter or sidewalk when encountered when required for laying the pipe. Only that portion of the curb and gutter or sidewalk needed to lay the pipe shall be removed.

B. Where concrete curb and gutter or sidewalk is removed or disturbed during the construction work, it shall be replaced, using 3000 psi concrete, in fully as good or better condition than that which existed prior to the Contractor's operation.

3.11 REPLACEMENT OF EXISTING MAIL BOXES, CULVERTS, CLOTHES LINE POSTS, FENCES AND OTHER SUCH FACILITIES

A. Existing mail boxes, drainage culverts, clothes line posts, fences and the like shall not be damaged or disturbed unless necessary, in which case, they shall be replaced in as good condition as found as quickly as possible. Existing materials shall be reused in replacing such facilities when materials have not been damaged by the Contractor's operations. Existing facilities damaged by Contractor's operation shall be replaced with new materials of the same type at the Contractor's expense. Work in this category is not a pay item.

B. Replacement of paved drainage ditches within highway right-of-way shall be accomplished in accordance with Department of Transportation specifications.

3.12 PORTLAND CEMENT CONCRETE DRIVEWAY REPLACEMENT

A. Wherever Portland cement concrete driveways are removed, they shall be reconstructed to the original lines and grades and in such manner as to leave all such surfaces in fully as good or better condition than existed prior to the operation.

B. The existing concrete paving shall be sawed or cut to straight edges 12-inches outside the edges of the trench or broken out to an existing joint, as directed by the Engineer. The concrete pavement shall be equal to the existing pavement thickness but not less than 6-inches in thickness for driveways.

C. Pavement shall be reinforced with 6 x 6 #10-10 wire mesh and shall be constructed with 3000 psi concrete.

3.13 RIP-RAP STREAM BANK SLOPE PROTECTION

A. The Contractor shall install rip-rap stream bank slope protection at locations directed by the Engineer. Rip-rap slope protection shall be 12-inches thick and shall meet State D.O.T. Standard Specifications.

3.14 TESTING

A. All pressure piping (lines not laid to grade) shall be given a hydrostatic test of at least 150 psi, but not to exceed the rated working pressure of the pipe or valves. Note: Engineer shall verify test pressure. Loss of pressure during the test shall not exceed 0 psi in a 4 hour period and 5 psi in a 24 hour period. Any test results that do not meet either of these requirements shall constitute a failure of the pressure test. All pumping equipment and/or plumbing connected to a water system shall be disconnected from the section of piping being tested.

B. No leakage in the pipelines shall be allowed, when tested under the hydrostatic test described above.

C. Contractor shall furnish a recording pressure charts during duration of test. Recording pressure charts shall be turned over to the Engineer at conclusion of tests. The pressure recording device shall be suitable for outside service, with a range from 0-200 psig, 24- hour spring wound clock, designed for 9-inch charts, and shall be approved by the Engineer.

D. Pipelines shall be backfilled before they are tested, except where otherwise required by necessity or convenience to visually inspect joints or taps that cannot be isolated from the existing system.

E. Where joints or taps cannot be isolated from the existing system, duration of test shall be not less than four (4) hours where joints are exposed and not less than 24 hours where joints are covered.

F. Where leaks are visible at exposed joints, evident on the surface where joints are covered, and/or identified by isolating a section of pipe, the joints shall be repaired and leakage must be minimized, regardless of total leakage as shown by test.

G. All pipe, fittings, valves, and other materials found to be defective under test shall be removed and replaced at no additional expense to the Owner.

H. Lines which fail to meet tests shall be repaired and retested as necessary until test requirements are complied with.

I. Where nonmetallic joint compounds are used, pipelines should be held under normal operating pressure for at least three days before testing.

J. The Owner will provide initial water for testing the pressure piping. Should the first test fail to pass, all additional water required for subsequent tests shall be furnished at the Contractor's expense.

K. The cost of testing of pressure piping is incidental and is to be included in the Contractor’s unit Contract Price.

3.15 CLEAN UP

A. Upon completion of installation of the piping and appurtenances, the Contractor shall remove all debris and surplus construction materials resulting from the Work. The Contractor shall grade the ground along each side of pipe trenches in a uniform and neat manner leaving the construction area in a shape as near as possible to the original ground line.

3.16 DISINFECTION OF POTABLE WATER LINES

A. The new potable waterlines shall not be placed in service--either temporarily or permanently--until they have been thoroughly disinfected in accordance with AWWA Standard C651-05, 2005 and to the satisfaction of the Engineer.

B. After testing, a solution of hypochlorite using HTH or equal shall be introduced into the section of the line being disinfected sufficient to insure a chlorine dosage of at least 50 ppm in the main. While the solution is being applied, the water should be allowed to escape at the ends of the line until tests indicate that a dosage of at least 50 ppm has been obtained throughout the pipe. Open and close all valves and cocks while chlorinating agent is in the piping system. The chlorinated water shall be allowed to remain in the pipe for 24 hours, after which a residual of at least 25 ppm shall be obtained. The disinfection shall be repeated until 25 ppm is obtained after which time the main shall be thoroughly flushed until the residual chlorine content is not greater than 1.0 ppm, and then may be connected to the system. Also, no additional payment will be allowed for providing taps for chlorine injection and/or flushing, if necessary. The Contractor is responsible for the disposal of highly chlorinated water flushed from the main.

C. The new water line shall not be put into service until bacteriological samples taken at the points specified herein are examined and shown to be negative after disinfection, following the requirements of “Standard Methods for Examination of Water and Wastewater”. Two consecutive sets of acceptable samples, taken at least 24 hours apart shall be collected from the

new line. Samples are to be taken and tested at every 1200 feet of new water line, at each branch and at each dead end.

D. If trench water has entered the pipe, or excessive quantities of dirt or debris have entered the pipe, samples shall be taken at intervals of approximately 200 feet and the locations identified. Samples shall be taken of water that has stood in the new line for at least 16 hours after flushing is completed.

E. If the initial disinfection does not produce satisfactory bacteriological results, the new line shall be reflushed and resampled. If samples fail, the line shall be rechlorinated by the continuous-feed or slug method until satisfactory results are obtained.

F. All testing documentation shall be submitted to the Owner.

3.17 LAWNS AND GRASSES

A. Provide all labor, materials, equipment, and services required for seeding of all disturbed areas caused by construction activities and for installation of sod where indicated on the Contract Drawings or specified herein.

B. Lawns and grasses installation and maintenance shall comply with provisions in KYTC Standard Specifications Section 212.

END OF SECTION 331113

SECTION 331216 - VALVES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide all labor, materials, equipment and services required to furnish and install all valves shown on the Drawings and/or specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this Section.

B. Piping is specified in Division 33 Specification sections.

1.3 SUBMITTALS

A. Descriptive literature, catalog cuts, and dimensional prints clearly indicating all dimensions and materials of construction, shall be submitted on all items specified herein to the Engineer for review before ordering. Comply with provisions of Section 013323.

B. At the time of submission, the Contractor shall, in writing, call Engineer's attention to any deviations that the submittals may have from the requirements of the Engineer's Contract Drawings and Specifications.

C. In accordance with the requirements of the General and Special Conditions and this Section, the following table includes, but is not limited to, the items required to be submitted:

Item Description	**Shop Drawings**	**Product Data**	**Schedules**	**Installation Data**	**Parts Lists**	**Wiring Diagram**	**Samples**	**O & M Manual**	**Certificates**	**Warranty**	**Report**	**Other**
Valves	X	X			X							
Valve Boxes		X										
Access Manhole	X	X										
Yard Hydrant	X	X			X							
Tapping Sleeve, Valve	X	X		X	X							

PART 2 - PRODUCTS

2.1 GATE VALVES

A. Gate valves shall conform with AWWA C-515 standard, and shall be of the resilient seat type, ductile iron body, fully bronze mounted, non-rising stem and have a design working pressure of 250 psi. All assembly bolts shall be stainless steel. Valves shall be of standard manufacturer and of the highest quality both as to materials and workmanship.

B. All gate valves shall be furnished with mechanical joint connections, unless otherwise shown on the Drawings or specified hereinafter.

C. An epoxy coating conforming to AWWA C-550 shall be applied to the interior and exterior ferrous surfaces of the valve except for finished or seating surfaces.

D. All gate valves shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working water pressure cast on the body of the valve.

E. Gate valves 12” and smaller shall be installed in a vertical position. Gate valves greater than 12”shall have the bonnet mounted in the horizontal position and have a bevel gear actuator. Gate valves shall be provided with a 2-inch square operating nut and shall be opened by turning to the left (counter-clockwise). All valve operating nuts shall be set within a cast iron valve box. There shall be a maximum 48" depth of valve operating nut. Contractor must use extension stems, if necessary, to raise operator nut within 48" of final grade.

2.2 INSERTION VALVES AND HYDRA STOP

A. The Insertion Valve and Hydra Stop shall consist of three subassemblies: the Valve Body, which shall be mounted pressure tight around the main; the Valve Cartridge, which shall be inserted, under full line pressure, into the Valve Body; and the Cartridge Closure Flange, which shall secure and permanently seal the Valve Cartridge into the Valve Body. Insertion valves shall be available for installation on 4”, 6”, 8”, 10”, 12” and 16” nominal pipe sizes.

B. Valve Body: The valve body shall consist of a two-part 304L stainless steel tapping saddle with a stainless steel tapping/insertion outlet, welded to the upper half of the saddle. The two part body shall be assembled around the pipe and pressure-sealed to the main by a single griddled resilient sheet gasket and throat gasket. The gasket shall fully encircle the pipe, providing a 360-degree full area seal. Suitable fasteners and supporting lugs shall be provided, as specified below.

1. Saddles shall be fabricated of Type 304L stainless steel. The design of the saddles, bolts, lugs and armor plates shall be such that the saddle halves can be mounted, without further modification, pressure-tight around the pipe. Contractor shall excavate and expose the existing pipe to verify the existing pipe type and size prior to ordering the insertion valve.

2. Bolting lugs shall be Type 304L stainless steel weldments and shall be designed and positioned on the saddle halves to insure accurate assembly of both halves. After assembly around the pipe, the vertical spacing of the bolting lugs between the two saddle

halves shall allow adjustment to accommodate the range of pipe diameters specified above.

3. Bolting studs, nuts, along with any formed metal washers shall be fabricated from Type 304 stainless steel. All screw threads shall be 5/8-11UNC-2 (coarse). Nuts shall be heavy series.

4. Sheet Gasket shall be molded from a virgin SBR elastomer compound that will resist compression set and is compatible with cold drinking water in the normal 32 to 120 deg. A griddled ("waffle") pattern shall be molded on the inner side of the gasket. Each side (which lies parallel to the run of the pipe) of the Gasket shall be tapered to allow uniform distribution of clamping (gasket) pressure over the entire circumference of the pipe. A stainless steel Armor Plate shall be attached to each side of the Gasket to bridge the gap between the saddle halves.

5. The tapping/insertion outlet on the upper saddle half shall be fabricated from Type 304 stainless steel, and shall have a flange welded to the outlet neck with locking pins to mate with the top groove of the Stuffing Box Plate (which is part of the Valve Cartridge). Below these locking pins, the interior of the outlet shall be accurately bored to seal against the "O"- ring contained in the stuffing box plate. The bore shall be further machined to provide a shoulder to vertically locate the Valve Cartridge when it is inserted into the Body. Two opposing rectangular keyways shall be machined into the interior wall of the outlet to receive the guide keys on the Valve Cartridge carrier.

C. The Valve Cartridge shall consist of a stuffing box plate, valve stem with operating nut, valve plugging head that shall consist of a carrier with an internal deformable sealing element and two external resilient sealing sleeves, and ancillary parts and fasteners. This cartridge shall be inserted into the outlet under full line pressure by means of a Cartridge Inserter.

1. The stuffing box plate shall retain the collar of the valve stem against the cartridge closure flange to prevent vertical motion during normal operation of the Insertion Valve. Suitable thrust washers shall be installed above and below the stem collar.

   a. The bore of this plate shall provide a pressure sealing surface for o-rings mounted on the valve stem.
   b. The exterior of this plate shall be grooved to receive locking pins installed from the nozzle flange after plate has been inserted into the nozzle and has seated against the internal nozzle shoulder. Below this pin groove, the plate shall be further machined to accept an o-ring to provide a pressure-seal between the exterior of the plate and the bore of the nozzle.

2. Valve Stem: The stem shall be machined from 304 stainless steel with a 700 LB torque capacity. During normal operation of the Insertion Valve, rotation of the stem shall advance the valve carrier with sealing devices into the fully closed position to stop flow in the pipe. Reversal of stem rotation shall retract the carrier into the completely open position, allowing full flow through the main.

   a. The Owner shall specify the valve stem to be machined to open the valve by turning it clockwise (open right) or counter clockwise (open left), prior to ordering.
   b. The top the stem shall be provided with a detachable, 2" square operating nut.

c. Valve shall be operated at 3 turns per inch for 4” through 16”.

3. The valve plugging head shall consist of two major components: rigid cylindrical carrier and three elastomer sealing devices, along with connecting parts and fasteners.

a. The carrier shall be a rigid, solid cylinder, turned to provide clearance to enter the access (tapped) hole in the pipe. A vertical central slot shall be machined into the lower portion of the carrier. This slot shall contain a single flat deformable sealing element. The carrier shall consist of a solid CM-909 body with rubber coating on the middle half of the CM-909 body.
b. The bottom of carrier shall be hemispherical to generally conform to the bore of the pipe. It shall be designed to break and to dislodge tuberculation and other deposits that might interfere with a suitable shutdown.
c. The carrier top, above the slot, shall contain an internal stainless steel thread to mate with that on the valve stem. Suitable mechanical means shall be provided to attach the deformable element to the carrier to insure retraction upon opening.
d. Rectangular guide keys shall be inserted to the top of the carrier. These keys shall be positioned to engage with and slide in the keyways machined into the interior walls of the outlet. This action shall maintain alignment of the valve cartridge when the Insertion Valve Plus is operated.
e. A single deformable sealing element shall be contained inside the slot in the carrier. The element shape shall be generally flat with the lower end semi-circular to seal the bottom of the pipe. The carrier shall deform that element into sealing contact with the pipe wall when the Insertion Valve is closed.
f. A resilient sleeve shall be attached to each of the two vertical cylindrical sides of the carrier. When the Insertion Valve is closed, these two sleeves shall seal against the deformable element and those surfaces of the pipe not sealed by the element, thereby completing the shutdown.

D. The cartridge closure flange with a flat flange gasket shall be used to complete the installation of the Insertion Valve. After the stuffing box plate has been seated on the shoulder in the outlet and the lock screws have been tightened from the outlet Flange, the Valve Cartridge shall be mechanically secure in the Valve Body. All water leakage paths shall be sealed. A Stem o-ring shall pressure-seal against a bored hole in the closure flange. The flange shall then be bolted to the outlet flange, followed by installation of the valve operating nut.

E. The Insertion shall be Insta-Valve Plus as manufactured by Hydra-Stop, Alsip, Il. The Insta-Valve Plus does not guarantee a 100% shutdown due to unknown factors within the pipe. The Insta-Valve Plus shall be rated to 150 PSI working pressure and 225 PSI test pressure.

2.3 TAPPING SLEEVES AND VALVES

A. SST tapping sleeves for use in connections to existing water lines, where indicated on the drawings or as directed by the Engineer, shall have the body and neck constructed of ASTM A-240 type 304 stainless steel and shall be compressed to the carrier pipe by use of heavy gauge triangular sidebars running the length of the body. Bolts, nuts and washers shall be constructed of type 304 stainless steel. The gasket between the tapping sleeve and carrier pipe shall be constructed of Buna_N rubber and be NSF 61 approved. The gasket shall have a grid pattern to help secure it in place and have seal around the full circumference of the pipe. Tapping outlet connections shall be constructed of ductile iron conforming to ASTM A-536

and have either a mechanical joint connection conforming to AWWA C-111, or a flanged connection with drillings in accordance with ANSI class 125#/150#. Tapping Sleeves shall be suitable for the following working pressures: 4”-12” 250 psi, 14”-24” 200 psi and shall be Mueller No. H-304, Romac Industries SST III, or approved equal.

B. Tapping valves shall meet the requirements of paragraph 2.01 hereinbefore and shall be coordinated to connect to the tapping sleeve with either a flanged end or a mechanical joint end.

C. All existing water mains to be tapped under this contract shall be exposed in order to verify line sizes prior to ordering tapping sleeves and valves.

2.4 VALVE BOXES - BURIED VALVES (EXCEPT AIR RELEASE AND SEWAGE COMBINATION VALVES)

A. Valve boxes shall be of 5-1/4 inch standard cast iron, two-piece, screw type valve box with drop cover marked "WATER", "SEWER", "DRAIN", as applicable. Valve boxes for gate valves larger than 8 inches shall be three-piece. Valve boxes shall be accurately centered over valve operating nut, and backfill thoroughly tamped about them. Valve boxes shall not rest on the valves but shall be supported on crushed stone fill. They shall be set vertically and properly cut and/or adjusted so that the tops of boxes will be at grade in any paving, walk or road surface, and in grass plots, fields, woods or other open terrain. Valve boxes and covers shall be as manufactured by Tyler Corporation, Opelika Foundry, Bingham & Taylor, or equal.

B. Contractor shall furnish two (2) 6-foot T-handle operating wrenches for underground valves. Nut operator extensions for all valves buried deeper than 3 feet shall be provided with stem extensions sufficient to raise operator nut to within 3 feet of finished grade.

C. Valve boxes shall have extension stems, where necessary when operating nut is raised to be within 4 feet of the existing grade.

D. Wherever valve boxes fall outside of the pavement, the top of the box shall be set in a cast-in-place concrete slab 18” x 18” x 4” thick with the top of the slab and box flush with the top of the ground. This provision shall apply to all new and all existing valve boxes which fall within the limits of the contract, unless otherwise stated on the plans or ordered by the Engineer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. All valves shall be installed in accordance with details on the Contract Drawings and with the manufacturer's recommendations.

B. All valves shall be anchored in accordance with the details on the Contract Drawings.

END OF SECTION 331216

SECTION 331219 - HYDRANTS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide all labor, materials, equipment and services required for furnishing and installing all hydrants and appurtenances specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Earthwork: Section 312000

B. Valves - Utilities Services: Section 331216

C. Water Distribution Piping: Section 331113

1.3 SUBMITTALS

A. Submit shop drawings and product data in accordance with Section 013323 of this specification.

B. Descriptive literature, catalog cuts, and dimensional prints clearly indicating all dimensions and materials of construction, shall be submitted on all items specified herein to the Engineer for review before ordering.

C. In accordance with the requirements of the General and Special Conditions and this Section, the following table includes, but is not limited to, the items required to be submitted:

Item Description	**Shop Drawings**	**Product Data**	**Schedules**	**Installation Data**	**Parts Lists**	**Wiring Diagram**	**Samples**	**O & M Manual**	**Certificates**	**Warranty**	**Report**	**Other**
Hydrants	X	X		X	X							

PART 2 - PRODUCTS

2.1 FIRE HYDRANTS

A. The Contractor shall furnish and install fire hydrants and auxiliary gate valves where shown on the Drawings or directed by the Engineer. Hydrants shall conform in all respects to the most recent requirements of AWWA C502. Hydrant barrel shall have safety breakage feature above the ground line. All hydrants shall have 6-inch mechanical joint shoe connection, two (2) 2-1/2-inch discharge nozzles, and one (1) 4 1/2-inch pumper nozzle with rubber gasketed caps fitted with cap chains. Cap nuts are to be five (5) sided. Connection threads shall be National Standard Thread. Main valve shall have 5-1/4-inch full opening and be of the compression type opening against water pressure so that valve remains closed should barrel be broken off.

B. Hydrants shall be fully bronze mounted. Main valve shall have a threaded bronze seat ring assembly of such design that it is easily removable by unscrewing from a threaded bronze drain ring. Bronze drain ring shall have multiple ports providing positive automatic drainage as the main valve is opened or closed. Drainage waterways shall be completely bronze to prevent rust and corrosion.

C. The operating nut shall be five (5) sided bronze or bronze with a five (5) sided ductile iron cap, and mounted so that a counter clockwise motion will open the valve. There must be cast on top an arrow and the word “Open” indicating the direction of turn to open the hydrant.

D. Operating stem shall be equipped with anti-friction thrust bearing to reduce operating torque and assure easy opening. Stop shall be provided to limit stem travel. Stem threads shall be enclosed in a permanently sealed lubricant reservoir protected from weather and the waterway with O-ring seals.

E. Hydrants shall be shop tested to 300 psi pressure with main valve both opened and closed. Under test the valve shall not leak, the automatic drain shall function and there shall be no leakage into the bonnet.

F. Type of shoe connection shall be mechanical joint and size shall be six inches (6").

G. Hydrants shall be given two (2) coats of enamel high visibility paint to be selected by the Owner.

H. Hydrants shall be Mueller Super Centurion Model A-423, or approved equal.

2.2 YARD HYDRANTS

A. Yard hydrants and auxiliary gate valves shall be installed where described on the Drawings or directed by the Engineer in accordance with the details shown. Hydrants shall be of the frostproof, compression type with all working parts removable without digging up the hydrants. Hydrants shall be equipped with removable handwheel or lever, hose connections (3/4" size) and bottom connection for 3/4-inch water line. Hydrants shall be Model Y34 Woodford Yard Hydrant or equal.

B. All hydrants shall be backfilled to the ground surface with crushed stone.

C. Exposed portions of hydrants shall be factory painted with an enamel finish. Color charts shall be furnished with Shop Drawings for color selection by the Engineer. Below ground portions shall have two (2) coats of Fed. Spec. TT-V-51F Asphalt Varnish.

D. All like parts of hydrants of the same size and model produced by the same manufacturer shall be interchangeable.

E. Hydrants shall be marked with name of manufacturer, year of manufacture, and size.

2.3 POST HYDRANTS

A. Post hydrants and auxiliary gate valves shall be installed where described on the Drawings or directed by the Engineer in accordance with the details shown. Hydrants shall be of the frostproof, compression type with all working parts removable without digging up the hydrants. Hydrants shall be equipped with removable handwheel or lever, hose connections (2-1/2" size) and bottom connection for 3-inch water line. Hydrants shall be The Kupferle Foundry Company Eclipse No. 2 Post Hydrant or equal.

B. All hydrants shall be backfilled to the ground surface with crushed stone.

C. Exposed portions of hydrants shall be factory painted with an enamel finish. Color charts shall be furnished with Shop Drawings for color selection by the Engineer. Below ground portions shall have two (2) coats of Fed. Spec. TT-V-51F Asphalt Varnish.

D. All like parts of hydrants of the same size and model produced by the same manufacturer shall be interchangeable.

E. Hydrants shall be marked with name of manufacturer, year of manufacture, and size.

PART 3 - EXECUTION

3.1 SETTING OF FIRE HYDRANTS

A. Location:

1. Hydrants shall be located as shown or as directed so as to provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians.
2. When placed behind the curb, the hydrant barrel shall be set so that the pumper or hose nozzle cap will be a minimum of five feet (5') from the back of curb.
3. When set in the lawn space between the curb and the sidewalk or between the sidewalk and the property line, no portion of the hydrant or nozzle cap shall be within six inches (6") of the sidewalk.

B. Position:

1. All hydrants shall be set plumb with not less than two (2) cubic feet of crushed stone and shall have their nozzles parallel with the roadway, with the pumper nozzle facing toward

the roadway. Hydrants shall be set to the established grade, with nozzles at least eighteen inches (18") above the ground, as shown or as directed by the Engineer.

C. Connection to Main:

1. Each hydrant shall be connected to the main with a six-inch (6") restrained joint ductile iron branch controlled by an independent six -inch (6") gate valve, unless otherwise specified.

D. Hydrant Drainage in Pervious Soil:

1. Whenever a hydrant is set in soil that is pervious, drainage shall be provided at the base of the hydrant by placing uncrushed course aggregate (AAHSTO M-43) No. 57 from the bottom of the trench to at least six inches (6") above the drain opening in the hydrant and to a distance of one foot (1') around the elbow. No drainage system shall be connected to a sewer.

E. Hydrant Drainage in Impervious Soil:

1. Whenever a hydrant is set in clay or impervious soil, a drainage pit two feet (2') in diameter and three feet (3') deep shall be excavated below each hydrant and filled compactly with uncrushed course aggregate (AASHTO M-43) No. 57 under and around the elbow of the hydrant and to a level of six inches (6") above the drain opening. No drainage pit shall be connected to a sewer (see Standard Details).

3.2 SETTING OF YARD HYDRANTS

A. Location:

1. Hydrants shall be located as shown on the Contract Drawings or as directed by the Owner or Engineer so as to provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians.

B. Position:

1. All hydrants shall be set plumb with not less than two (2) cubic feet of crushed stone. Hydrants shall be set to the established grade, with nozzles at least thirty-six inches (36") above the ground, as shown on the Details in the Drawings, or as directed by the Owner or Engineer. Hydrants shall be backfilled with crushed stone, which in encased by a section of an 18" diameter concrete pipe. (See Standard Details)

C. Connection to Main:

1. Each hydrant shall be connected to the main with a corporation stop, unless otherwise specified.

D. Hydrant Drainage in Pervious Soil:

1. Whenever a hydrant is set in soil that is pervious, drainage shall be provided at the base of the hydrant by placing uncrushed course aggregate (AAHSTO M-43) No. 57 from the

bottom of the trench to at least six inches (6") above the drain opening in the hydrant and to a distance of one foot (1') around the elbow. No drainage system shall be connected to a sewer.

E. Hydrant Drainage in Impervious Soil:

1. Whenever a hydrant is set in clay or impervious soil, a drainage pit two feet (2') in diameter and three feet (3') deep shall be excavated below each hydrant and filled compactly with uncrushed course aggregate (AASHTO M-43) No. 57 under and around the elbow of the hydrant and to a level of six inches (6") above the drain opening. No drainage pit shall be connected to a sewer (see Standard Details).

3.3 SETTING OF POST HYDRANTS

A. Location:

1. Hydrants shall be located as shown on the Contract Drawings or as directed by the Owner or Engineer so as to provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians.

B. Position:

1. All hydrants shall be set plumb with not less than two (2) cubic feet of crushed stone. Hydrants shall be set to the established grade, with nozzles at least thirty-six inches (36”) above the ground, as shown on the Details in the Drawings, or as directed by the Owner or Engineer. Hydrants shall be backfilled with crushed stone, which in encased by a section of an 18" diameter concrete pipe. (See Standard Details)

C. Connection to Main:

1. Hydrants shall be connected to the main by mechanical joint, screwed or flanged shoe. Mechanical joint shoes shall be fitted with strapping lugs.

D. Hydrant Drainage in Pervious Soil:

1. Whenever a hydrant is set in soil that is pervious, drainage shall be provided at the base of the hydrant by placing uncrushed course aggregate (AAHSTO M-43) No. 57 from the bottom of the trench to at least six inches (6") above the drain opening in the hydrant and to a distance of one foot (1') around the elbow. No drainage system shall be connected to a sewer.

E. Hydrant Drainage in Impervious Soil:

1. Whenever a hydrant is set in clay or impervious soil, a drainage pit two feet (2') in diameter and three feet (3') deep shall be excavated below each hydrant and filled compactly with uncrushed course aggregate (AASHTO M-43) No. 57 under and around the elbow of the hydrant and to a level of six inches (6") above the drain opening. No drainage pit shall be connected to a sewer (see Standard Details).

F. Hydrant Box:

1. Hydrant box shall be installed at grade and per manufacturer's recommendations. Box shall not be attached to the hydrant at any point.

3.4 ANCHORAGE

A. The bowl of each hydrant shall be tied to the pipe with suitable anchor couplings, as shown on the Standard Details in the Drawings or as directed by the Owner or Engineer.

3.5 FIRE HYDRANT WRENCHES

A. One (1) hydrant wrench shall be furnished for each ten (10) hydrants or less. When the number of hydrants furnished and installed exceeds twenty-five (25), one (1) hydrant repair kit shall be supplied at no additional cost to the Owner.

END OF SECTION 331219

N O T I C E

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NATIONWIDE PERMIT AUTHORIZATION
KENTUCKY DIVISION OF WATER 401 WQC

PROJECT: Oldham County, Item No. 5-304.15 RECONSTRUCT KY-22 FROM KY-329B TO ABBOTT LANE INCLUDING THE TERMINI INTERSECTIONS OF KY 22 @ KY 329B AND KY 22 @ ABBOTT LANE.("BRIDGE HILL")

The Section 404 activities for this project have been previously permitted under the authority of the Department of the Army Nationwide Permit No. 14 “Linear Transportation Crossings” as the project impacts are BELOW NOTIFICATION THRESHOLDS. Specifically all stream impacts are below 300’, less than 0.10 acres and no special aquatic sites will be impacted.

This project involves work near and/or within Jurisdictional Waters of the United States as defined by the United States Army Corps of Engineers and therefore requires a Nationwide 14 General 404 Permit. The Division of Water certified this General Permit with several conditions (See attached). One that should be brought to your attention is regarding the use of heavy equipment in the stream channel. If there is need to cross the stream channel with heavy equipment or conduct work from within the stream channel a working platform or temporary crossing is authorized. This should be constructed with clean rock and sufficient pipe to allow stream flow to continue unimpeded (see attached typical drawing).

In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Approval in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain **written** permission from the Division of Construction and the Division of Environmental Analysis. If such changes necessitate further permitting then the contractor will be responsible for applying to the Army Corps of Engineers and the Kentucky Division of Water (KDOW). A copy of any request to the Corps of Engineers or the KDOW to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.

STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

General Certification--Nationwide Permit # 14
Linear Transportation Projects

This General Certification is issued March 19, 2012, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

For this and all nationwide permits, the definition of surface water is as per 401 KAR 10:001 Chapter 10, Section 1(80): Surface Waters means those waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered to be surface waters of the commonwealth.

Agricultural operations, as defined by KRS 224.71-100(1) conducting activities pursuant to KRS 224.71-100 (3), (4), (5), (6), or 10 are deemed to have certification if they are implementing an Agriculture Water Quality Plan pursuant to KRS 224.71-145.

For all other operations, the Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 14, namely Linear Transportation Projects, provided that the following conditions are met:

1. The activity will not occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Waters.

2. The activity will not occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) mitigation sites.

3. The activity will impact less than 1/2 acre of wetland/marsh.

4. The activity will impact less than 300 linear feet of surface waters of the Commonwealth. Stream realignment greater than 100 feet is not covered under this general water quality certification.

General Certification--Nationwide Permit # 14
Linear Transportation Projects
Page 2

5. For a single and complete linear transportation project, the cumulative length of impacts less than 300 linear feet of surface waters within each Hydrologic Unit Code (HUC) 14 watershed will not exceed 500 linear feet.

6. Stream impacts covered under this General Water Quality Certification and undertaken by those persons defined as an agricultural operation under the Agricultural Water Quality Act must be completed in compliance with the Kentucky Agricultural Water Quality Plan (KWQP).

7. The Kentucky Division of Water may require submission of a formal application for an individual certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.

8. Activities that do not meet the conditions of this General Water Quality Certification require an Individual Section 401 Water Quality Certification.

9. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:

    - Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur (401 KAR 10:031 Section 2 and KRS 224.70-100).
    - Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to, upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.
    - Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
    - Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access.
    - To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.

General Certification--Nationwide Permit # 14
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Page 2

- Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.
- Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.
- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when such work will be done.
- Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the KDOW shall be notified immediately by calling (800) 928-2380.

Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.

KENTUCKY REGIONAL GENERAL CONDITIONS

These regional conditions are in addition to, but do not supersede, the requirements in the Federal Register (Volume 77 No. 34 of February 21, 2012)

Notifications for all Nationwide Permits (NWPs) shall be in accordance with General Condition No. 31.

1. For activities that would result in a loss of Outstanding State or National Resource Waters (OSNRWs), Exceptional Waters (EWs), Coldwater Aquatic Habitat Waters (CAHs) and waters with Designated Critical Habitat (DCH) under the Endangered Species Act for the NWPs listed below, a Pre-Construction Notification (PCN) will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs for impacts to these waters.

   NWP 3 (Maintenance)
   NWP 7 (Outfall Structures and Associated Intake Structures)
   NWP 12 (Utility Line Activities)
   NWP 14 (Linear Transportation Projects)
   NWP 29 (Residential Developments)
   NWP 39 (Commercial and Institutional Developments)
   NWP 40 (Agricultural Activities)
   NWP 41 (Reshaping Existing Drainage Ditches)
   NWP 42 (Recreational Facilities)
   NWP 43 (Stormwater Management Facilities)
   NWP 44 (Mining Activities)
   NWP 51 (Land-Based Renewable Energy Generation Facilities)
   NWP 52 (Water-Based Renewable Energy Generation Pilot Projects)

2. In addition to the notification and agency coordination requirements in the NWPs, for impacts greater than 0.25 acres in all "waters of the U.S." for the NWPs listed below, a PCN will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs:

   NWP 3 (Maintenance)
   NWP 7 (Outfall Structures and Associated Intake Structures)
   NWP 12 (Utility Line Activities)
   NWP 14 (Linear Transportation Projects)
   NWP 29 (Residential Developments)
   NWP 39 (Commercial and Institutional Developments)
   NWP 40 (Agricultural Activities)
   NWP 41 (Reshaping Existing Drainage Ditches)
   NWP 42 (Recreational Facilities)
   NWP 43 (Stormwater Management Facilities)
   NWP 44 (Mining Activities)
   NWP 51 (Land-Based Renewable Energy Generation Facilities)
   NWP 52 (Water-Based Renewable Energy Generation Pilot Projects)

3. For activities in all "waters of the U.S." for the NWPs listed below, a PCN will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs:

   NWP 21 (Surface Coal Mining Activities)
   NWP 27 (Aquatic Habitat Restoration, Establishment & Enhancement Activities)
   NWP 49 (Coal Remining Activities)
   NWP 50 (Underground Coal Mining Activities)

4. Nationwide Permit No. 14 – Linear Transportation Projects.

   (a) Activities in Section 10 navigable waters will require a PCN to the Corps.

   (b) New public road alignments or realignments are limited to a permanent loss of 500 linear feet of intermittent or perennial stream length at each crossing. Public road crossings with permanent losses greater than 500 linear feet of intermittent or perennial stream associated with new alignments or realignments will be evaluated as an individual permit i.e., a Letter of Permission or as a Standard Individual Permit.

   (c) All linear transportation project crossings resulting in the permanent loss of greater than 300 linear feet of intermittent or perennial stream will require mitigation to compensate for impacts to the "waters of the U.S." The permanent loss of "waters of the U.S." includes the linear feet of water that is permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity and not restored to pre-construction contours and elevations after construction. In addition to the notification requirements contained in NWP 14, the permittee must submit a PCN to the district engineer prior to commencing the activity for the permanent loss of greater than 300 feet of intermittent and perennial stream of all "waters of the U.S.". (See General Condition 31 and the definition of "loss of waters of the United States" in the Nationwide Permits for further information.)

Further information:
Outstanding State or National Resource Water (OSNRWs), Exceptional Waters (EWs), and Coldwater Aquatic Habitat Waters (CAHs) are waters designated by the Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet. The list can be found at the following link: http://eppcapp.ky.gov/spwaters/
Designated Critical Habitat (DCH) under the Endangered Species Act is determined within the Commonwealth of Kentucky by the U.S. Fish and Wildlife Service. The current list of Kentucky's Threatened, Endangered, and Federal Candidate Species can be found at the following link: http://www.fws.gov/frankfort/EndangeredSpecies.html

Information on Pre-Construction Notification (PCN) can be found at NWP General Condition No. 31 (Federal Register, Volume 77, No. 34, Tuesday, February 21, 2012, pp 10286-10288).
Mitigation includes activities that avoid, minimize, and compensate for impacts.

COORDINATING RESOURCE AGENCIES

Chief, Wetlands Regulatory Section
U.S. Environmental Protection Agency
Region IV
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303
Supervisor
U.S. Fish & Wildlife Service
JC Watts Federal Building, Room 265
330 West Broadway
Frankfort, Kentucky 40601
Supervisor
401 Water Quality Certification
Kentucky Division of Water
200 Fair Oaks Lane, 4th Floor
Frankfort, Kentucky 40601
Commissioner
Department of Fish and Wildlife Resources
#1 Game Farm Road
Frankfort, Kentucky 40601
Executive Director and State Historic Preservation Officer
Kentucky Heritage Council
300 Washington Street
Frankfort, Kentucky 40601

ADDITIONAL COORDINATING RESOURCE AGENCY FOR NWPS 21, 49, AND 50

Kentucky Department of Natural Resources
Division of Mine Permits
#2 Hudson Hollow
Frankfort, Kentucky 40601

US Army Corps of Engineers

Nationwide Permit
No. 14, Linear Transportation Projects

Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States.

a. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States.

b. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

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

d. This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds
1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 31.) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Valid from March 19, 2012 through March 18, 2017

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

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

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

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

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car

bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

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

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

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

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

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

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

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

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

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

16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River

designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must

still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

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

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist

of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

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

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

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

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with

any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

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

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

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

_____
(Transferee)

_____
(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative

description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments.

The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

D. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

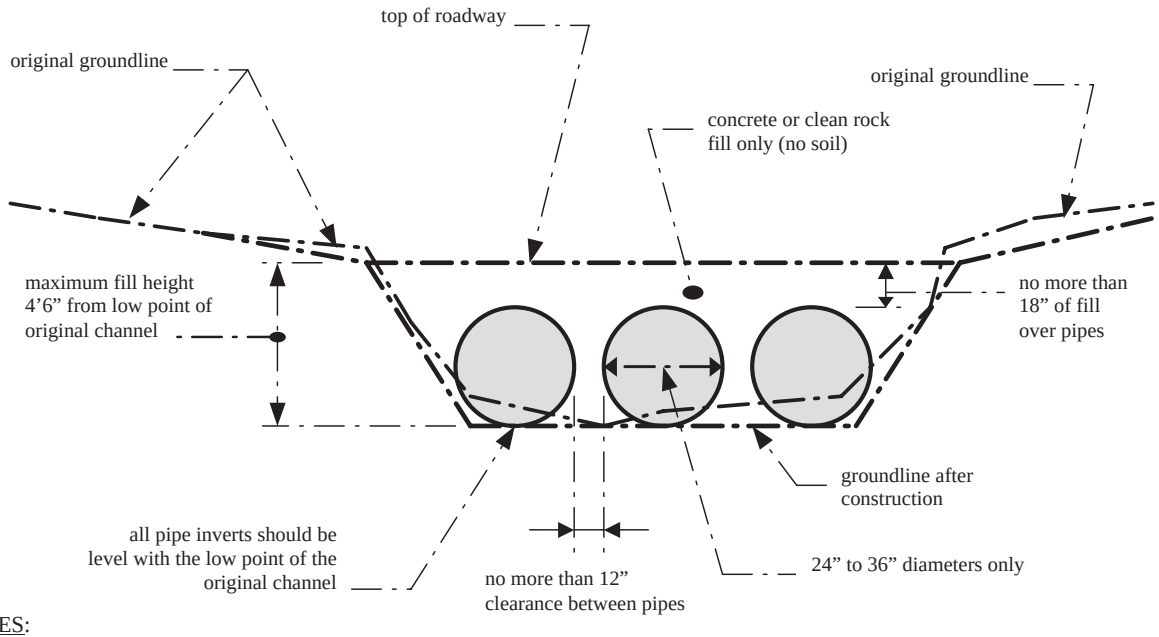
2. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

3. If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (a) that the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (c) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period, with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

E. Further Information

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

ATTACHMENT 1



NOTES:

1. This is a conceptual drawing. The number and size of pipes and other details will vary depending on specific site conditions.
2. The pipes and backfill must be contained within the stream channel as shown above. During the construction of the approaches and access roadway across the floodplain, unstable and unconsolidated materials unsuitable for roadways may be excavated and replaced with riprap, crushed stone, or other stable road construction materials. This may only be done, however, with the following provisions: (1) the disposal of excess, unconsolidated materials thus excavated must be outside of the floodplain and (2) the finished surface of the completed road may be no more than three inches (3") above the pre-construction surface of the floodplain at any point beyond the top of banks.

LOW-WATER CROSSING

STANDARD DRAWING
Not to Scale

Kentucky Transportation Cabinet

Highway District 5

And

_____(2), Construction

Kentucky Pollutant Discharge Elimination System Permit KYR10 Best Management Practices (BMP) plan

Groundwater protection plan

For Highway Construction Activities

For

RECONSTRUCT KY-22 FROM KY-329B TO ABBOTT LANE INCLUDING THE TERMINI INTERSECTIONS OF KY 22 @ KY 329B AND KY 22 @ ABBOTT LANE.("BRIDGE HILL")(12CCR)(14CCR)

Project: PCN 05 – 0304.15

Project information

Note – (1) = Design (2) = Construction (3) = Contractor

1. Owner – Kentucky Transportation Cabinet, District 5 (1)

2. Resident Engineer: (2)

3. Contractor name: (2)
   Address: (2)

   Phone number: (2)
   Contact: (2)
   Contractors agent responsible for compliance with the KPDES permit requirements (3):

4. Project Control Number (2)

5. Route (Address) **5715 West Highway 22** (1)

6. Latitude/Longitude (project mid-point) **38/19/51 N, 85/26/59 W** (1)

7. County (project mid-point) **OLDHAM** (1)

8. Project start date (date work will begin): (2)

9. Projected completion date: (2)

A. Site description:

1. Nature of Construction Activity (from letting project description): **Major Widening** (1)

2. Order of major soil disturbing activities (2) and (3)

3. Projected volume of material to be moved: **193,919 CU YDS** (1)

4. Estimate of total project area (acres): **33.2** (1)

5. Estimate of area to be disturbed (acres): **33.2** (1)

6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information. (1)

7. Data describing existing soil condition: **The project is located within the Crestwood Geologic Quadrangle (# 1342). The geologic mapping indicates that the bedrock at this site is of the Drakes, Osgood and Brassfield Formations. The roadway excavation associated with the project consists mostly of soil or weathered rock; significant quantities of durable rock will not be available from construction for geotechnical applications** (1) & (2)

8. Data describing existing discharge water quality (if any) (1) & (2)

9. Receiving water name: **Curry's Fork** (1)

10. TMDLs and Pollutants of Concern in Receiving Waters: **NO TMDLs for listed stream** (1 DEA)

11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.

12. Potential sources of pollutants:

    The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

B. Sediment and Erosion Control Measures:

1. Plans for highway construction projects will include erosion control sheets that depict Disturbed Drainage Areas (DDAs) and related information. These plan sheets will show the existing project conditions with areas delineated by DDA within the right of way limits, the discharge points and the areas that drain to each discharge point. Project managers and designers will analyze the DDAs and identify Best Management Practices (BMPs) that are site specific. The balance of the BMPs for the project will be listed in the bid documents for selection and use by the contractor on the project with approval by the resident engineer.

   Projects that do not have DDAs annotated on the erosion control sheets will employ the same concepts for development and managing BMP plans.

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as “Do Not Disturb” until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP’s shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. <u>All DDA’s will have adequate BMP’s in place before being disturbed.</u>

3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:

   - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.

- At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.
- Clearing and Grubbing – The following BMP's will be considered and used where appropriate.
    - Leaving areas undisturbed when possible.
    - Silt basins to provide silt volume for large areas.
    - Silt Traps Type A for small areas.
    - Silt Traps Type C in front of existing and drop inlets which are to be saved
    - Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
    - Brush and/or other barriers to slow and/or divert runoff.
    - Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
    - Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
    - Non-standard or innovative methods.
- Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
    - Silt Traps Type B in ditches and/or drainways as they are completed
    - Silt Traps Type C in front of pipes after they are placed
    - Channel Lining
    - Erosion Control Blanket
    - Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
    - Non-standard or innovative methods
- Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
    - Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
    - Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
    - Additional Channel Lining and/or Erosion Control Blanket.
    - Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
    - Special BMP's such as Karst Policy

- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:
  - Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
  - Permanent Seeding and Protection
  - Placing Sod
  - Planting trees and/or shrubs where they are included in the project
- BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are : (1)

C. Other Control Measures

1. No solid materials, including building materials, shall be discharged to waters of the commonwealth, except as authorized by a Section 404 permit.

2. Waste Materials

All waste materials that may leach pollutants (paint and paint containers, caulk tubes, oil/grease containers, liquids of any kind, soluble materials, etc.) will be collected and stored in appropriate covered waste containers. Waste containers shall be removed from the project site on a sufficiently frequent basis as to not allow wastes to become a source of pollution. All personnel will be instructed regarding the correct procedure for waste disposal. Wastes will be disposed in accordance with appropriate regulations. Notices stating these practices will be posted in the office.

3. Hazardous Waste

All hazardous waste materials will be managed and disposed of in the manner specified by local or state regulation. The contractor shall notify the Resident Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

4. Spill Prevention

The following material management practices will be used to reduce the risk of spills or other exposure of materials and substances to the weather and/or runoff.

- **Good Housekeeping:**

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure
- Products will be kept in their original containers with the original manufacturer's label
- Substances will not be mixed with one another unless recommended by the manufacturer
- Whenever possible, all of the product will be used up before disposing of the container
- Manufacturers' recommendations for proper use and disposal will be followed
- The site contractor will inspect daily to ensure proper use and disposal of materials onsite

- **Hazardous Products:**

These practices will be used to reduce the risks associated with any and all hazardous materials.

- Products will be kept in original containers unless they are not resealable
- Original labels and material safety data sheets (MSDS) will be reviewed and retained
- Contractor will follow procedures recommended by the manufacturer when handling hazardous materials
- If surplus product must be disposed of, manufacturers' or state/local recommended methods for proper disposal will be followed

The following product-specific practices will be followed onsite:

- **Petroleum Products:**

Vehicles and equipment that are fueled and maintained on site will be monitored for leaks, and receive regular preventative maintenance to reduce the chance of

leakage. Petroleum products onsite will be stored in tightly sealed containers, which are clearly labeled and will be protected from exposure to weather.

The contractor shall prepare an Oil Pollution Spill Prevention Control and Countermeasure plan when the project that involves the storage of petroleum products in 55 gallon or larger containers with a total combined storage capacity of 1,320 gallons. This is a requirement of 40 CFR 112.

This project (will / will not) (3) have over 1,320 gallons of petroleum products with a total capacity, sum of all containers 55 gallon capacity and larger.

- **Fertilizers:**

Fertilizers will be applied at rates prescribed by the contract, standard specifications or as directed by the resident engineer. Once applied, fertilizer will be covered with mulch or blankets or worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

- **Paints:**

All containers will be tightly sealed and stored indoors or under roof when not being used. Excess paint or paint wash water will not be discharged to the drainage or storm sewer system but will be properly disposed of according to manufacturers' instructions or state and local regulations.

- **Concrete Truck Washout:**

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a shallow earthen wash basin will be excavated away from ditches to receive the wash water

- **Spill Control Practices**

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup**:**

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.

- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contract with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

D. Other State and Local Plans

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. (1)

E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.

- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.

- Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. (1)

F. Inspections

Inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by individuals that have received KyTC Grade Level II training or other qualification as prescribed by the cabinet that includes instruction concerning sediment and erosion control.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 70 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

It is expected that non-storm water discharges may occur from the site during the construction period. Examples of non-storm water discharges include:

- Water from water line flushings.
- Water form cleaning concrete trucks and equipment.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater and rain water (from dewatering during excavation).

All non-storm water discharges will be directed to the sediment basin or to a filter fence enclosure in a flat vegetated infiltration area or be filtered via another approved commercial product.

H. Groundwater Protection Plan (3)

This plan serves as the groundwater protection plan as required by 401 KAR 5:037.

- Contractors statement: (3)

The following activities, as enumerated by 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan, will or may be may be conducted as part of this construction project:

_____ 2. (e) land treatment or land disposal of a pollutant;

_____ 2. (f) Storing, …, or related handling of hazardous waste, solid waste or special waste, …, in tanks, drums, or other containers, or in piles, (This does not include wastes managed in a container placed for collection and removal of municipal solid waste for disposal off site);

_____ 2. (g) …. Handling of materials in bulk quantities (equal or greater than 55 gallons or 100 pounds net dry weight transported held in an individual container) that, if released to the environment, would be a pollutant;

_____ 2. (j) Storing or related handling of road oils, dust suppressants, …., at a central location;

_____ 2. (k) Application or related handling of road oils, dust suppressants or deicing materials, (does not include use of chloride-based deicing materials applied to roads or parking lots);

_____ 2. (m) Installation, construction, operation, or abandonment of wells, bore holes, or core holes, (this does not include bore holes for the purpose of explosive demolition);

Or, check the following only if there are no qualifying activities

_____ There are no activities for this project as listed in 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan.

The contractor is responsible for the preparation of a plan that addresses the

401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

(a) General information about this project is covered in the Project information;
(b) Activities that require a groundwater protection plan have been identified above;
(c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
(d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
(e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job function(s). Training will be accomplished within one week of employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.
(f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections
(g) Certification (see signature page.)

Contractor and Resident Engineer Plan certification

The contractor that is responsible for implementing this BMP plan is identified in the Project Information section of this plan.

The following certification applies to all parties that are signatory to this BMP plan:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, this plan complies with the requirements of 401 KAR 5:037. By this certification, the undersigned state that the individuals signing the plan have reviewed the terms of the plan and will implement its provisions as they pertain to ground water protection.

Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

Signed _____title_____, _____
Typed or printed name[2] signature

(3) Signed _____title_____, _____
Typed or printed name[1] signature

1. Contractors Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

2. KyTC note: to be signed by the Chief District Engineer or a person designated to have the authority to sign reports by such a person (usually the resident engineer) in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601 Reference the Project Control Number (PCN) and KPDES number when one has been issued.

Sub-Contractor Certification

The following sub-contractor shall be made aware of the BMP plan and responsible for implementation of BMPs identified in this plan as follows:

Subcontractor

Name:
Address:
Address:

Phone:

The part of BMP plan this subcontractor is responsible to implement is:

I certify under penalty of law that I understand the terms and conditions of the general Kentucky Pollutant Discharge Elimination System permit that authorizes the storm water discharges, the BMP plan that has been developed to manage the quality of water to be discharged as a result of storm events associated with the construction site activity and management of non-storm water pollutant sources identified as part of this certification.

Signed _____title_____, _____
Typed or printed name[1] signature

1. Sub Contractor Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

Kentucky DEP ePermitting and eForms

Thank you for submitting your information via the Kentucky Department for Environmental Protection eForms website. Please save a copy of this submittal for your records. We recommend saving a copy as a .mht, .html, or .htm file.

The Submittal ID for this transaction is 40735 and was submitted on July 23, 2014 10:43 AM Eastern Time. If you need to contact DEP regarding your submission, please reference your Submittal ID.

Your eForm Transaction ID for this submittal is eb65925a-80ac-4a97-bb31-50f146c3539f. The eForm Transaction ID allows you to use the data from this submittal as a template and/or download a copy of your submittal.

Please click **here** for the Submittal and Attachment Download Page.

Please click **here** to return to the eForms Home Page.

Kentucky Pollutant Discharge Elimination (KPDES)

Notice of intent (NOI) for coverage of Storm Water Discharge Associated with Construction Activities Under the KPDES Storm Water General Permit KYR100000

Submission of this Notice of Intent constitutes notice that the party identified in the section I of this form intends to be authorized by a KPDES permit issued for storm water discharges associated with construction activity. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit.

I. Facility Operator Information

Operator Name(s) (*)	KYTC DISTRICT 5	Phone(*)	502-210-5400		
Mailing Address(*)	8310 WESTPORT ROAD	Status of Owner/Operator	State		
City(*)	LOUISVILLE	State(*)	Kentucky	Zip(*)	40242

II. Facility/Site Location Information

Name of Project(*)	KYTC 5-0304.15	Physical Address(*)	5717 West Highway 22	City(*)	Crestwood
State(*)	Kentucky	Zip(*)	40014	County(*)	Oldham
Latitude (Decimal Degrees)(*)	38.330833 DMS to DD Converter	Longitude (Decimal Degrees)(*)	-85.449722	SIC Code(*)	1611

III. Site Activity Information

a. For single projects provide the following information:

Total Number of acres in project:	33.2
Total Number of acres to be disturbed:	33.2
Anticipated Start Date	01/15/2015

Anticipated Completion Date	06/30/2017

b. For common plans of development provide the following information:

Total number of acres in project	
Number of individual lots in development, if applicable	
Number of lots to be developed	
Total acreage of lots intended to be developed	
Total acreage intended to be disturbed	
Number of acres intended to be disturbed at any one time	
Anticipated start date	
Anticipated completion date	
List Contractor(s)	Company Name(*) / Add New

IV. If the permitted site discharges to a water body the following information is required

a:

Name of Receiving Water (*)	Currys Fork
Anticipated number of discharge points	19

Location of Anticipated discharge points

	Latitude(s)	Longitude(s)
Delete	38.326554	-85.462811
Delete	38.327317	-85.461567
Delete	38.327469	-85.461127
Delete	38.327199	-85.460644
Delete	38.328004	-85.458700
Delete	38.328731	-85.456786
Delete	38.329952	-85.453754
Delete	38.329635	-85.452661
Delete	38.330008	-85.452051
Delete	38.329853	-85.451566
Delete	38.330124	-85.449212
Delete	38.330497	-85.445766
Delete	38.329948	-85.446008

	Delete	38.330069	-85.445803
	Delete	38.330420	-85.445342
	Delete	38.331162	-85.443187
	Delete	38.332278	-85.441890
	Delete	38.332586	-85.440363
	Add New		

Receiving Water Body Stream-Use Designation	☐ Cold Water Aquatic Habitat ☐ Domestic Water Supply ☐ Outstanding State Resource Water ☐ Primary Contact Recreation ☐ Secondary Contact Recreation ☑ Warm Water Aquatic Habitat
Antidegradation Categorization	Impaired Waters

b:

Name of Receiving Water	Currys Fork
Anticipated number of discharge points	4

Location of Anticipated discharge points		Latitude(s)	Longitude(s)
	Delete	38.334365	-85.436205
	Delete	38.332984	-85.438631
	Delete	38.332001	-85.437844
	Delete	38.331994	-85.437954
	Add New		

Receiving Water Body Stream-Use Designation	☐ Cold Water Aquatic Habitat ☐ Domestic Water Supply ☐ Outstanding State Resource Water ☐ Secondary Contact Recreation ☐ Primary Contact Recreation ☑ Warm Water Aquatic Habitiat
Antidegradation Categorization	Impaired Waters

V. If the permitted site discharges to a MS4 the following information is required

Name of MS4	
Number of discharge points to the MS4	

Location of each discharge point		Latitude(s)	Longitude(s)
	Add New		

Date of application/notification to the MS4 for construction site permit coverage	

VI. Construction activities in or along a water body

Will the project require construction activities in a water body or the riparian zone?	Yes
If Yes, describe scope of activity	Construction of perpendicular crossing will remove vegetation.
Is a Clean Water Act 404 permit required?	Nationwide
Is a Clean Water Act 401 Water Quality Certification required?	General

Kentucky DEP ePermitting and eForms

VII. NOI Preparer Information

First Name(*)	Anthony	Middle Initial	K	Last Name(*)	Downs
Mailing Address(*)	8310 Westport Road	City(*)	Louisville	State(*)	Kentucky
Zip(*)	40242	Phone(*)	502-210-5446	eMail Address(*)	keith.downs@ky.gov

VIII. Attachment(s)

Topographic map(*)	Upload File(s) Files 05-304.15 USGS_NOI.pdf (2.0MB) Remove
Supplemental Information	Upload File(s)

IX. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. By submitting data, this transmission constitutes my signature and I am responsible for any and all content submitted either by me or by the people I represent.

Signature(*)	Matt Bullock PE	First Name(*)	Matt		
Middle Initial	A	Last Name(*)	Bullock	Date(*)	7/23/2014
Contact eMail Address(*)	Matt.Bullock@ky.gov	Contact Phone(*)	502-210-5400		

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WHO MUST FILE A NOTICE OF INTENT (NOI) FORM

Federal law at 40 CFR Part 122 prohibits point source discharges of stormwater associated with industrial activity to a water body of the Commonwealth of Kentucky without a Kentucky Pollutant Discharge Elimination System (KPDES) permit. The operator of an industrial activity that has such a storm water discharge must submit a NOI to obtain coverage under the KPDES Storm Water General Permit. If you have questions about whether you need a permit under the KPDES Storm Water program, or if you need information as to whether a particular program is administered by the state agency, call the **Storm Water Contact, Operational Permits Section, Kentucky Division of Water at (502) 564-3410.**

WHERE TO FILE NOI FORM

Operational Permits Section SWP Branch,
Division of Water 200 Fair Oaks Lane
Frankfort, KY 40601

Electronic NOI-SWCAs are to be submitted a minimum of seven (7) working days prior to commencement of construction related activities. Paper NOI-SWCAs are to be submitted a minimum of thirty (30) working days prior to commencement of construction related activities.

COMPLETING THE FORM

Enter information in the appropriate areas only. (*) denotes a required field. Enter N/A (Not Applicable) for fields that are required but do not apply to your submission. If you have any questions regarding the completion of this form call the **Storm Water Contact, Operational Permits Section, at (502) 564-3410.**

SECTION I - FACILITY OPERATOR INFORMATION

Operator Name(s): Enter the name or names of all operators applying for coverage under KYR10 using this NOI.
Mailing Address, City, State, and Zip Code: Provide the mailing address of the primary operator
Phone No.: Provide the telephone numbers of the person who is responsible for the operation.
Status of Owner/Operator: Select the appropriate legal status of the operator of the facility from the dropdown list.
Federal
Public (other than federal or state)
State
Private

SECTION II - FACILITY/SITE LOCATION INFORMATION

Name of Project: Provide the name of the project.
Physical Address, City, State, Zip Code and County: Provide the physical address of the project.
Latitude/Longitude: Provide the general site latitude and longitude of the operation.
SIC Code: Enter the Standard Industrial Code for the project

SECTION III - SITE ACTIVITY INFORMATION

For single projects provide the following information:

Total number of acres in project: Indicate the total acreage of the project including both disturbed and undisturbed areas.
Total number of acres to be disturbed: Indicate the total number of acres of the project to be disturbed.
Anticipated start date: Indicate the approximate date of when construction activities will begin.
Anticipated completion date: Indicated the approximate date of when final stabilization will be achieved.

For common plans of development provide the following information:

Total number of acres in project: Indicate the total acreage of the project including both disturbed and undisturbed areas.
Number of individual lots in development, if applicable: Indicate the number of individual lots or unit in the common plan of development
Number of lots to be developed: Indicate the number of lots that you intend to develop.
Total acreage of lots intended to develop: Indicate the total acreage of the lots you intend to develop.
Total acreage intended to disturb: Indicate the total acreage of the lots you intend to disturb
Number of acres intended to disturb at any one time: Indicate the maximum number of acres to be disturbed at any one time.
Anticipated start date: Indicate the approximate date of when construction activities will begin.
Anticipated completion date: Indicated the approximate date of when final stabilization will be achieved.
List of contractors: Provide the names of all known contractors that will be working on site.

SECTION IV â€“ IF THE PERMITTED SITE DISCHARGES TO A WATER BODY THE FOLLOWING INFORMATION IS REQUIRED

Name of Receiving Water: Provide the names of the each water body receiving discharges from the site. Provide only official USGS names do not provide local names.
Anticipated number of discharge points: Indicate the number of discharge points to each receiving water body.
Location of anticipated discharge points: Provide the latitude and longitude of each discharge point. Add points as necessary.
Receiving Water Body Stream Use Designation: Check all appropriate boxes.
Antidegradation Categorization: Select from the drop down box one of the following:
Outstanding National Resource Water
Exceptional Water

High Quality Water
Impaired Water

SECTION V â€“ IF THE PERMITTED SITE DISCHARGES TO A MS4 THE FOLLOWING INFORMATION IS REQUIRED

Name of MS4: Provide the name of the MS4 to which the activity will discharge.
Number of discharge points to the MS4: Indicate the number of discharge points.
Location of each discharge point: Provide the latitude and longitude of each discharge point. Add points as necessary
Date of application/notification to the MS4 for construction site permit coverage: Indicate the date the MS4 has or will be notified.

SECTION VI â€“ CONSTRUCTION ACTIVITIES IN OR ALONG A WATER BODY

Will the project require construction activities in a water body or the riparian zone: Select Yes or No from the drop down box. **If Yes, describe scope of activity:** Provide a brief description of the activity (ies) that will take place in the water body or the riparian zone.

Is a Clean Water Act 404 permit required: Select Yes or No from the drop down box.
Is a Clean Water Act 401 Water Quality Certification required: Select Yes or No from the drop down box.

SECTION VII â€“ NOI PREPARER INFORMATION

Provide the name, mailing address, telephone number and eMail address of the person preparing the NOI.

SECTION VIII â€“Attachments

Attach a USGS topographic map indicating the location of the activity and the proposed discharge points.

SECTION IX â€“ CERTIFICATION

Provide the name, mailing address, telephone number and eMail address of the person who is responsible for the activity.

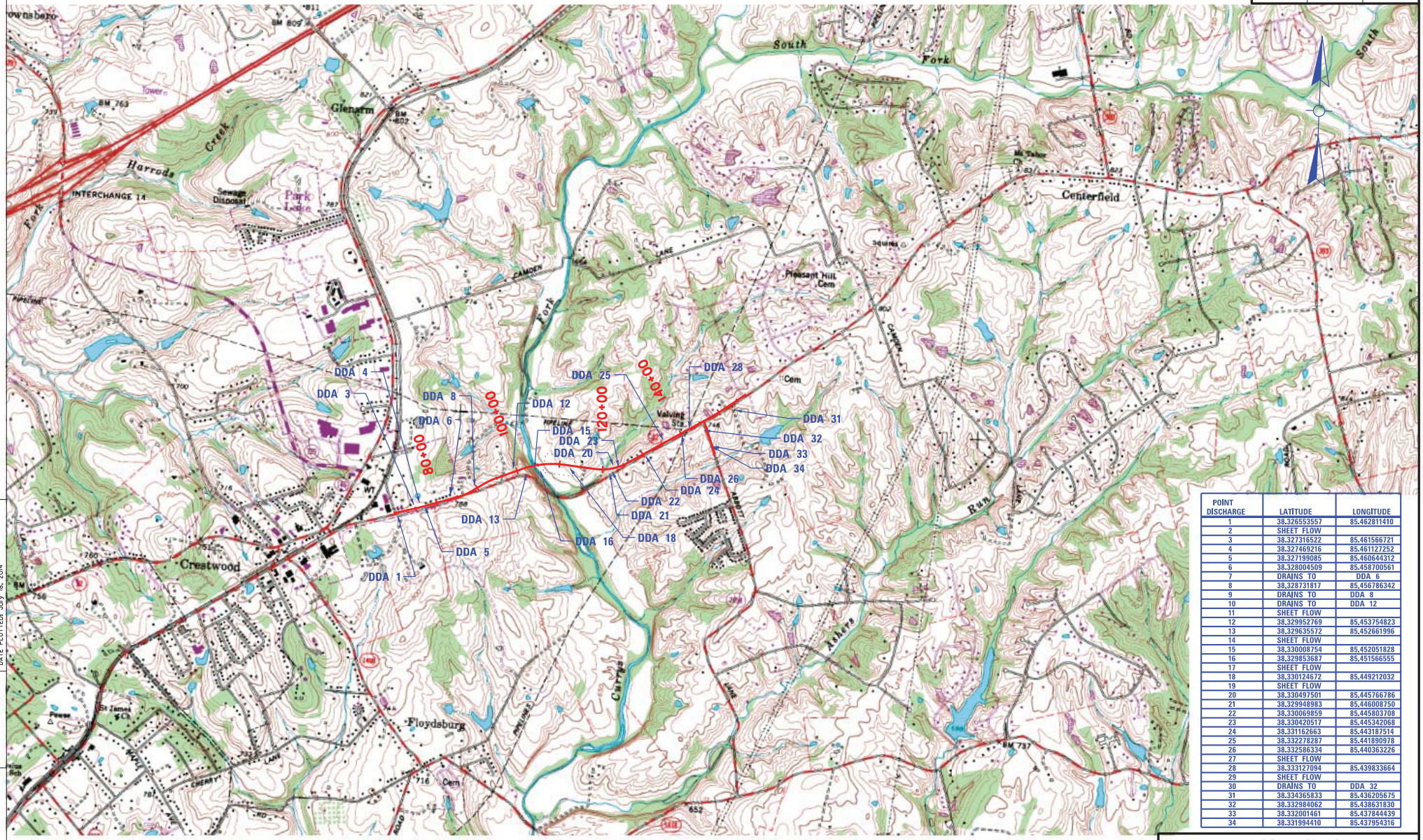
Signature: Provide full name of the responsibility party. This will constitute a signature.

The NOI must be signed as follows:

Corporation: by a principal executive officer of at least the level of vice president.
Partnership or sole proprietorship: by a general partner or the proprietor respectively.

COUNTY OF	ITEM NO.	SHEET
OLDHAM	05-304.15	Exb 1

EXHIBIT 1



POINT DISCHARGE	LATITUDE	LONGITUDE
1	38.326553557	85.462811410
2	SHEET FLOW	
3	38.327316522	85.461566721
4	38.327469216	85.461127252
5	38.327199085	85.460644312
6	38.328004509	85.458700561
7	DRAINS TO	DDA 6
8	38.328731817	85.456786342
9	DRAINS TO	DDA 8
10	DRAINS TO	DDA 12
11	SHEET FLOW	
12	38.329952769	85.453754823
13	38.329635572	85.452661996
14	SHEET FLOW	
15	38.330008754	85.452051828
16	38.329853687	85.451566555
17	SHEET FLOW	
18	38.330124672	85.449212032
19	SHEET FLOW	
20	38.330497501	85.445766786
21	38.329948983	85.446008750
22	38.330069859	85.445803708
23	38.330420517	85.445342068
24	38.331162663	85.443187514
25	38.332278287	85.441890978
26	38.332586334	85.440363226
27	SHEET FLOW	
28	38.333127094	85.439833664
29	SHEET FLOW	
30	DRAINS TO	DDA 32
31	38.334365833	85.436205675
32	38.332984062	85.438631830
33	38.332001461	85.437844439
34	38.331994410	85.437954316

CRESTWOOD QUADRANGLE – KY – OLDHAM COUNTY
SW/4 LA GRANGE 15' QUADRANGLE

0' 1000' 2000' 4000'

KY 22 RECONSTRUCTION
USGS TOPOGRAPHIC MAP
POINT DISCHARGE

FILE NAME: U:\9610L.FIN KY22 OLDHAM COUNTY\CURRYS FORK BRIDGE 3-LANE SECTION\DRAINAGE\05-304 USGS.NOL.DGN
USER: ford
DATE PLOTTED: July 18, 2014
E-SHEET NAME:
MicroStation v8.11.7.443

KENTUCKY TRANSPORTATION CABINET
COMMUNICATION ALL PROMISES (CAP)

Item Number	County	Route	Project Manager
05-0304.15	OLDHAM	KY 22	kytc\keith.downs

CAP #	Date of Promise	Requestor	Location of Promise:	CAP Description
1	8/5/14	KEITH DOWNS	PROJECT LIMITS	TREE CUTTING SHALL BE RESTRICTED TO BETWEEN THE DATES OF OCTOBER 15 - MARCH 31. TREE CUTTING SHALL ACT IN ACCORDANCE WITH THE AGREEMENTS BETWEEN KENTUCKY TRANSPORTATION CABINET AND THE UNITED STATES FISH AND WILDLIFE SERVICE.
2	9/3/14	KEITH DOWNS	PROJECT LIMITS	CAP #1 IS SUPERCEDED BY THE FOLLOWING: ALL TREES TO BE REMOVED DURING CONSTRUCTION SHALL BE FALLEN BETWEEN OCTOBER 15, 2014 AND MARCH 31, 2015, INCLUSIVE. TREE CUTTING SHALL ACT IN ACCORDANCE WITH THE AGREEMENTS BETWEEN KENTUCKY TRANSPORTATION CABINET AND THE UNITED STATES FISH AND WILDLIFE SERVICE.
3	9/18/14	KEITH	PARCEL 57	AT THE BEGINNING OF CONSTRUCTON, THE CONTRACTOR IS TO CONTACT WILLIAM BAKER, P57 (PROPERTY OWNER) IN REFERENCE TO REMOVING TREES AND THE RECONSTRUCTION OF THE DRIVEWAY. CONTACT INFORMATION: WILLIAM BAKER 4601 ABERCORNE TERRACE LOUISVILLE, KY 40241. PHONE: 502-550-1242

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.*

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Subsection: **Revision:**	102.15 Process Agent. 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: **Revision:**	105.13 Claims Resolution Process. 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: **Revision:**	108.03 Preconstruction Conference. Replace 8) Staking with the following: 8) Staking (designated by a Professional Engineer or Land Surveyor licensed in the Commonwealth of Kentucky.
Subsection: **Revision:**	109.07.02 Fuel. 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: **Revision:**	110.02 Demobilization. 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: **Revision:**	112.03.12 Project Traffic Coordinator (PTC). 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: **Revision:**	112.04.18 Diversions (By-Pass Detours). 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: **Revision:**	201.03.01 Contractor Staking. 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.

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Subsection: **Revision:**	201.04.01 Contractor Staking. 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: **Revision:**	206.04.01 Embankment-in-Place. 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: **Revision:**	208.02.01 Cement. 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: **Revision:**	208.03.06 Curing and Protection. 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: **Revision:**	208.03.06 Curing and Protection. Replace paragraph eight with the following: At no expense to the Department, repair any damage to the subgrade caused by freezing.
Subsection: **Part:** **Revision:**	212.03.03 Permanent Seeding and Protection. A) Seed Mixtures for Permanent Seeding. 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: **Part:** **Number:** **Revision:**	212.03.03 Permanent Seeding and Protection. A) Seed Mixtures for Permanent Seeding. 2) 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.

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Subsection: **Part:** **Number:** **Revision:**	212.03.03 Permanent Seeding and Protection. A) Seed Mixtures for Permanent Seeding. 3) 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: **Part:** **Revision:**	212.03.03 Permanent Seeding and Protection. B) Procedures for Permanent Seeding. Delete the first sentence of the section.
Subsection: **Part:** **Revision:**	212.03.03 Permanent Seeding and Protection. B) Procedures for Permanent Seeding. 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: **Part:** **Revision:**	212.03.03 Permanent Seeding and Protection. D) Top Dressing. Change the title of part to D) Fertilizer.
Subsection: **Part:** **Revision:**	212.03.03 Permanent Seeding and Protection. D) Fertilizer. 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: **Part:** **Revision:**	212.03.03 Permanent Seeding and Protection. D) Fertilizer. Delete the second paragraph.
Subsection: **Revision:**	212.04.04 Agricultural Limestone. Replace the entire section with the following: The Department will measure the quantity of agricultural limestone in tons.
Subsection: **Revision:**	212.04.05 Fertilizer. 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.

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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.

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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.

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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.

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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:

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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.

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Subsection: **Revision:**	615.08.01 Type of Test Specimen. 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: **Revision:**	615.08.02 Compression Testing. Delete the second sentence.
Subsection: **Revision:**	615.08.04 Acceptability of Core Tests. Delete the entire subsection.
Subsection: **Revision:**	615.12 Inspection. 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: **Revision:**	716.02.02 Paint. Replace sentence with the following: Conform to Section 821.
Subsection: **Revision:**	716.03 CONSTRUCTION. 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: **Revision:**	716.03.02 Lighting Standard Installation. 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: **Part:** **Revision:**	716.03.02 Lighting Standard Installation. A) Conventional Installation. 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: **Part:** **Number:** **Revision:**	716.03.02 Lighting Standard Installation. A) Conventional Installation. 1) Breakaway Installation and Requirements. 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: **Part:** **Revision:**	716.03.02 Lighting Standard Installation. B) High Mast Installation Replace the first sentence with the following: Install each high mast pole as noted on plans.
Subsection: **Part:** **Number:** **Revision:**	716.03.02 Lighting Standard Installation. B) High Mast Installation 2) Concrete Base Installation Modification of Chart and succeeding paragraphs within this section:

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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.

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Subsection: **Part:** **Revision:**	716.03.03 Trenching. B) Trenching of Conduit for Non-Highmast Cables. 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: **Revision:**	716.03.10 Junction Boxes. Replace subsection title with the following: Electrical Junction Box.
Subsection: **Revision:**	716.04.07 Pole with Secondary Control Equipment. 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: **Revision:**	716.04.08 Lighting Control Equipment. 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: **Revision:**	716.04.09 Luminaire. Replace the first sentence with the following: The Department will measure the quantity as each individual unit furnished and installed.
Subsection: **Revision:**	716.04.10 Fused Connector Kits. Replace the first sentence with the following: The Department will measure the quantity as each individual unit furnished and installed.
Subsection: **Revision:**	716.04.13 Junction Box. Replace the subsection title with the following: Electrical Junction Box Type Various.
Subsection: **Part:** **Revision:**	716.04.13 Junction Box. A) Junction Electrical. Rename A) Junction Electrical to the following: A) Electrical Junction Box.
Subsection: **Revision:**	716.04.14 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.

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Subsection: **Revision:**	716.04.18 Remove Lighting. 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: **Revision:**	716.04.20 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:**	716.05 PAYMENT. 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: **Revision:**	723.02.02 Paint. Replace sentence with the following: Conform to Section 821.
Subsection: **Revision:**	723.03 CONSTRUCTION. 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: **Revision:**	723.03.02 Poles and Bases Installation. 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: **Part:** **Revision:**	723.03.02 Poles and Bases Installation. A) Steel Strain and Mastarm Poles Installation 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: **Part:** **Revision:**	723.03.02 Poles and Bases Installation. B) Pedestal or Pedestal Post Installation. 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.

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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.

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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.

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Subsection: **Revision:**	723.04.36 Traffic Signal Pole Base. 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: **Revision:**	723.04.37 Install Signal Pedestal. 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: **Revision:**	723.04.38 Install Pedestal Post. 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: **Revision:**	723.05 PAYMENT. 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: **Revision:**	804.01.02 Crushed Sand. Delete last sentence of the section.
Subsection: **Revision:**	804.01.06 Slag. 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: **Revision:**	804.04 Asphalt Mixtures. 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: **Revision:**	806.03.01 General Requirements. 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.

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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".

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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.

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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.

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Subsection: **Revision:**	835.07 Traffic Poles. *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: **Revision:**	835.07.01 Steel Strain Poles. 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: **Revision:**	835.07.01 Steel Strain Poles. 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: **Revision:**	835.07.02 Mast Arm Poles. 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: **Revision:**	835.07.02 Mast Arm Poles. 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: **Revision:**	835.07.03 Anchor Bolts. 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: **Revision:**	835.16.05 Optical Units. Replace the 3rd paragraph with the following: The list of certified products can be found on the following website: http://www.intertek.com.
Subsection: **Revision:**	835.19.01 Pedestrian Detector Body. Replace the first sentence with the following: Provide a four holed pole mounted aluminum rectangular housing that is compatible with the pedestrian detector.
Subsection: **Table:** **Revision:**	843.01.01 Geotextile Fabric. TYPE I FABRIC GEOTEXTILES FOR SLOPE PROTECTION AND CHANNEL LINING 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

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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.

1I

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

This Special Note will apply when indicated on the plans or in the proposal.

1.0 DESCRIPTION. Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

2.0 MATERIALS.

2.1 General. Use LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

2.2 Sign and Controls. All signs must:

1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
3) Provide a controller consisting of:
   a) Keyboard or keypad.
   b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
   c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
   d) Logic circuitry to control the sequence of messages and flash rate.
4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
8) Provide the driver board as part of a module. All modules are interchangeable, and have plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.
9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
11) Provide a photocell control to provide automatic dimming.

12) Allow an on-off flashing sequence at an adjustable rate.
13) Provide a sight to aim the message.
14) Provide a LED display color of approximately 590 nm amber.
15) Provide a controller that is password protected.
16) Provide a security device that prevents unauthorized individuals from accessing the controller.
17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

/KEEP/RIGHT/⇒⇒⇒/
/KEEP/LEFT/⇐⇐⇐/
/LOOSE/GRAVEL/AHEAD/
/RD WORK/NEXT/**MILES/
/TWO WAY/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/
/REDUCE/SPEED/**MPH/
/BRIDGE/WORK/***0 FT/
/MAX/SPEED/**MPH/
/SURVEY/PARTY/AHEAD/
/MIN/SPEED/**MPH/
/ICY/BRIDGE/AHEAD/ /ONE LANE/BRIDGE/AHEAD/
/ROUGH/ROAD/AHEAD/
/MERGING/TRAFFIC/AHEAD/
/NEXT/***/MILES/
/HEAVY/TRAFFIC/AHEAD/
/SPEED/LIMIT/**MPH/
/BUMP/AHEAD/
/TWO/WAY/TRAFFIC/

*Insert numerals as directed by the Engineer.
Add other messages during the project when required by the Engineer.

2.3 Power.

1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

3.0 CONSTRUCTION. Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will not assume ownership of these signs.

4.0 MEASUREMENT. The final quantity of Variable Message Sign will be

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the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

5.0 PAYMENT. The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

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SPECIAL NOTE FOR ROADBED STABILIZATION AT BRIDGE ENDS

This Special Note will apply where indicated on the plans or in the proposal. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Due to the wet and yielding embankments commonly encountered at bridge ends, undercut the existing roadbed within the limits the Contract specifies and backfill.

2.0 MATERIALS.

2.1 Geotextile Fabric. Furnish Type III fabric conforming to Section 843.

3.0 CONSTRUCTION. After removing the existing pavement and base, undercut the existing roadbed under the traffic lanes and shoulders as the Engineer directs. The minimum undercut shall be one foot, except undercut depth may be reduced where rock embankment constructed principally of limestone is encountered. Place geotextile fabric in the bottom and against the sides and ends of the undercut. The Department will not require a minimum lap between adjacent sheets of geotextile fabric for the longitudinal joint under the pavement centerline. Backfill the undercut with one or more of the following materials;

1) Crushed limestone size No. 1, 2, 23, or 57; or
2) Layered composition of several limestone sizes, with larger sizes on the bottom.

Use Dense Graded Aggregate (DGA), Crushed Stone Base (CSB), or Stabilized Aggregate Base (SAB) in the top 4 inches, and only in the top 4 inches, of the backfill.

Place geotextile fabric between the coarse backfill material and the 4-inch upper layer.

Compact the backfill material by "walking down" with equipment, or other methods the Engineer approves. See attached drawing for details of backfill placement and drainage.

Waste all removed materials, not used for purposes the Contract or Engineer specifies or permits, off the right-of-way at no expense to the Department.

4.0 MEASUREMENT.

4.1 Removing Pavement. The Department will measure the quantity in square yards. The Department will consider the pavement to include existing pavement, existing asphalt patching, and existing DGA base.

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4.2 Roadway Excavation. The Department will measure the quantity in cubic yards.

4.3 Backfilling Undercut. The Department will measure the quantity in cubic yards. The Department will not measure coarse aggregate for payment and will consider it incidental to this item of work.

4.4 Perforated Pipe. The Department will measure the quantity in linear feet.

4.5 Non-Perforated Pipe. The Department will measure the quantity in linear feet.

4.6 Geotextile Fabric, Type III. The Department will measure the quantity in square yards.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
02091	Removing Pavement	Square Yard
01000	Perforated Pipe - 4 inches	Linear Foot
01010	Non-Perforated Pipe, 4 inches	Linear Foot
02235	Backfilling Undercut	Cubic Yard
02598	Fabric - Geotextile Type III	Square Yard

The Department will consider payment as full compensation for all work required in this note.

June 15, 2012

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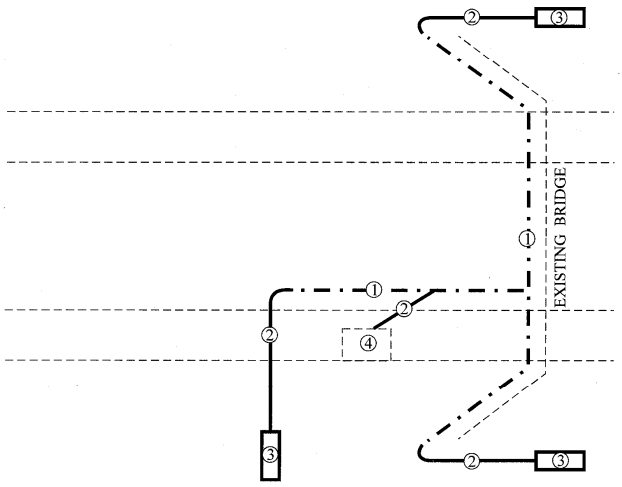
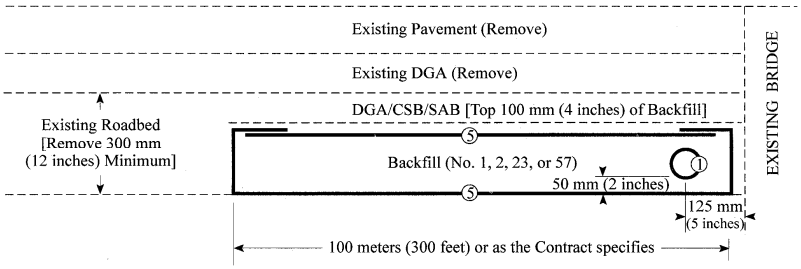
BRIDGE END DRAINAGE AND STABILIZATION
(DETAILS)





NOTES

Contrary to Section 705 of the Standard Specifications, use only coarse aggregate for trench backfill.

Slope all pipe to drain to the outside. Provide a 1:24 (1/2":1') or greater slope for the outlet pipe.

The Department may require additional transverse drains within the stabilization area.

LEGEND

① 100-mm (4-inch) Perforated Pipe
② 100-mm (4-inch) Non-perforated Pipe
③ Perforated Pipe Headwall
④ Existing Box Inlet
⑤ Geotextile Fabric, Type III

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SPECIAL NOTE FOR ROCK BLASTING

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. This work consists of fracturing rock and constructing stable final rock cut faces using presplit blasting and production blasting techniques.

2.0 MATERIALS. Deliver, store, and use explosives according to the manufacturer's recommendations and applicable laws. Do not use explosives outside their recommended use date. Verify date of manufacture and provide copies of the technical data sheets (TDS) and material safety data sheets (MSDS) to the Engineer. Explosives and initiating devices include, but are not necessarily limited to, dynamite and other high explosives, slurries, water gels, emulsions, blasting agents, initiating explosives, detonators, blasting caps, and detonating cord.

3.0 CONSTRUCTION. Furnish copies or other proof of all-applicable permits and licenses. Comply with Federal, State, and local regulations on the purchase, transportation, storage, and use of explosive material. Regulations include but are not limited to the following:

1) KRS 351.310 through 351.9901.
2) 805 KAR 4:005 through 4:165
3) Applicable rules and regulations issued by the Office of Mine Safety and Licensing.
4) Safety and health. OSHA, 29 CFR Part 1926, Subpart U.
5) Storage, security, and accountability. Bureau of Alcohol, Tobacco, and Firearms (BATF), 27 CFR Part 181.
6) Shipment. DOT, 49 CFR Parts 171-179, 390-397.

3.1 Blaster-in-Charge. Designate in writing a blaster-in-charge and any proposed alternates for the position. Submit documentation showing the blaster-in-charge, and alternates, have a valid Kentucky blaster's license. Ensure the blaster-in-charge or approved alternate is present at all times during blasting operations.

3.2 **Blasting Plans.** Blasting plans and reports are for quality control and record keeping purposes. Blasting reports are to be signed by the blaster-in-charge or the alternate blaster-in-charge. The general review and acceptance of blasting plans does not relieve the Contractor of the responsibility whatsoever for conformance to regulations or for obtaining the required results. All blasting plans shall be submitted to the Engineer. The Engineer will be responsible for submitting the plan to the Central Office Division of Construction and the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at the following address: 2 Hudson Hollow, Frankfort, Kentucky, 40601.

A) General Blasting Plan. Submit a general blasting plan for acceptance at least 15 working days before drilling operations begin. Include, as a minimum, the following safety and procedural details:

1) Working procedures and safety precautions for storing, transporting, handling, detonating explosives. Include direction on pre and post blast audible procedures, methods of addressing misfires, and methods of addressing inclement weather, including lightning.
2) Proposed product selection for both dry and wet holes. Furnish Manufacturer's TDS and MSDS for all explosives, primers, initiators, and other blasting devices.
3) Proposed initiation and delay methods.
4) Proposed format for providing all the required information for the site specific blasting shot reports.

B) Preblast Meeting. Prior to drilling operations, conduct a preblast meeting to discuss safety and traffic control issues and any site specific conditions that will need to be addressed. Ensure, at a minimum, that the Engineer or lead inspector, Superintendent, blaster-in-charge, and all personnel involved in the blasting operation are present. Site specific conditions include blast techniques; communication procedures; contingency plans and equipment for dealing with errant blast material. The conditions of the General Blasting plan will be discussed at this meeting. Record all revisions and additions made to the blasting plan and obtain written concurrence by the blaster-in-charge. Provide a copy of the signed blast plan to the Engineer along with the sign in sheet from the preblast meeting.

3.3 Preblast Condition Survey and Vibration Monitoring and Control. Before blasting, arrange for a preblast condition survey of nearby buildings, structures, or utilities, within 500 feet of the blast or that could be at risk from blasting damage. Provide the Engineer a listing of all properties surveyed and any owners denying entry or failing to respond. Notify the Engineer and occupants of buildings at risk at least 24 hours before blasting.

Limit ground vibrations and airblast to levels that will not exceed limits of 805 KAR 4:005 through 4:165. More restrictive levels may be specified in the Contract.

Size all blast designs based on vibration, distance to nearest building or utility, blast site geometry, atmospheric conditions and other factors. Ground vibrations are to be controlled according to the blasting standards and scaled distance formulas in 805 KAR 4:020 or by the use of seismographs as allowed in 805 KAR 4:030. The Department will require seismographs at the nearest allowable location to the protected site when blasting occurs within 500 feet of buildings, structures, or utilities.

3.4 Blasting. Drill and blast at the designated slope lines according to the blasting plan. Perform presplitting to obtain smooth faces in the rock and shale formations. Perform the presplitting before blasting and excavating the interior portion of the specified cross section at any location. The Department may allow blasting for fall benches and haul roads prior to presplitting when blasting is a sufficient distance from the final slope and results are satisfactory to the Engineer. Use the types of explosives and blasting accessories necessary to obtain the required results.

Free blast holes of obstructions for their entire depth. Place charges without caving the blast hole walls. Stem the upper portion of all blast holes with dry sand or other granular material passing the 3/8-inch sieve. Dry drill cuttings are acceptable for stemming when blasts are more than 800 feet from the nearest dwelling.

Stop traffic during blasting operations when blasting near any road and ensure traffic does not pass through the Danger Zone. The blaster-in-charge will define the Danger Zone prior to each blast. Ensure traffic is stopped outside the Danger Zone, and in no case within 800 feet of the blast location.

Following a blast, stop work in the entire blast area, and check for misfires before allowing worker to return to excavate the rock.

Remove or stabilize all cut face rock that is loose, hanging, or potentially dangerous. Leave minor irregularities or surface variations in place if they do not create a hazard. Drill the next lift only after the cleanup work and stabilization work is complete.

When blasting operations cause fracturing of the final rock face, repair or stabilize it in an approved manner at no cost to the Department.

Halt blasting operations in areas where any of the following occur:

1) Slopes are unstable;
2) Slopes exceed tolerances or overhangs are created;
3) Backslope damage occurs;
4) Safety of the public is jeopardized;
5) Property or natural features are endangered;
6) Fly rock is generated; or
7) Excessive ground or airblast vibrations occur in an area where damage to buildings, structures, or utilities is possible.
8) The Engineer determines that materials have become unsuitable for blasting

Blasting operations may continue at a reasonable distance from the problem area or in areas where the problems do not exist. Make the necessary modifications to the blasting operations and perform a test blast to demonstrate resolution of the problem.

A) Drill Logs. Maintain a layout drawing designating hole numbers with corresponding drill logs and provide a copy of this information to the blaster prior to loading the hole. Ensure the individual hole logs completed by the driller(s) show their name; date drilled; total depth drilled; and depths and descriptions of significant conditions encountered during drilling that may affect loading such as water, voids, changes in rock type.

B) Presplitting. Conduct presplitting operations in conformance with Subsection 204.03.04 of the Standard Specifications for Road and Bridge Construction.

3.5 Shot Report. Maintain all shot reports on site for review by the Department. Within one day after a blast, complete a shot report according to the record keeping requirements of 805 KAR 4:050. Include all results from airblast and seismograph monitoring.

3.6 Unacceptable Blasting. When unacceptable blasting occurs, the Department will halt all blasting operations. Blasting will not resume until the Department completes its investigation and all concerns are addressed. A blast is unacceptable when it results in fragmentation beyond the final rock face, fly rock, excessive vibration or airblast, overbreak, damage to the final rock face or overhang. Assume the cost for all resulting damages to private and public property and hold the Department harmless.

When an errant blast or fly rock causes damage to or blocks a road or conveyance adjacent to the roadway, remove all debris from the roadway as quickly as practicable and perform any necessary repairs. Additionally, when specified in the Contract, the Department will apply a penalty.

Report all blasting accidents to the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at 502-564-2340.

4.0 MEASUREMENT AND PAYMENT. The Department will not measure this work for payment and will consider all items contained in this note to be incidental to either Roadway Excavation or Embankment-in-Place, as applicable. However, if the Engineer directs in writing slope changes, then the Department will pay for the second presplitting operation as Extra Work.

The Department will measure for payment material lying outside the typical section due to seams, broken formations, or earth pockets, including any earth overburden removed with this material, only when the work is performed under authorized adjustments.

The Department will not measure for payment any extra material excavated because of the drill holes being offset outside the designated slope lines.

The Department will not measure for payment any material necessary to be removed due to the inefficient or faulty blasting practices.

June 15, 2012

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SPECIAL NOTE FOR TURF REINFORCING MAT

1.0 DESCRIPTION. Install turf reinforcement mat at locations specified in the Contract or as the Engineer directs. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

2.0 MATERIALS.

2.1 Turf Reinforcement Mat (TRM). Use a Turf Reinforcement Mat defined as permanent rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a three-dimensional matrix of sufficient thickness and from the Department's List of Approved Materials. Mats must be 100% UV stabilized materials. For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting exclusively. Ensure product labels clearly show the manufacturer or supplier name, style name, and roll number. Ensure labeling, shipment and storage follows ASTM D-4873. The Department will require manufacturer to provide TRMs that are machine constructed web of mechanically or melt bonded nondegradable fibers entangled to form a three dimensional matrix. The Department will require all long term performance property values in table below to be based on non degradable portion of the matting alone. Approved methods include polymer welding, thermal or polymer fusion, or placement of fibers between two high strength biaxially oriented nets mechanically bound by parallel stitching with polyolefin thread. Ensure that mats designated in the plans as Type 4 mats, are not to be manufactured from discontinuous or loosely held together by stitching or glued netting or composites. Type 4 mats shall be composed of geosynthetic matrix that exhibits a very high interlock and reinforcement capacities with both soil and root systems and with high tensile modulus. The Department will require manufacturer to use materials chemically and biologically inert to the natural soil environments conditions. Ensure the blanket is smolder resistant without the use of chemical additives. When stored, maintain the protective wrapping and elevate the mats off the ground to protect them from damage. The Department will not specify these materials for use in heavily acidic coal seam areas or other areas with soil problems that would severally limit vegetation growth.

A) Dimensions. Ensure TRMs are furnished in strips with a minimum width of 4 feet and length of 50 feet.
B) Weight. Ensure that all mat types have a minimum mass per unit area of 7 ounces per square yard according to ASTM D 6566.
C) Performance Testing: The Department will require AASHTO's NTPEP index testing. The Department will also require the manufacturer to perform internal MARV testing at a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory for tensile strength, tensile elongation, mass per unit area, and thickness once every 24,000 yds of production or whatever rate is required to ensure 97.7% confidence under ASTM D4439& 4354. The Department will require Full scale testing for slope and channel applications shear stress shall be done under ASTM D 6459, ASTM D 6460-07 procedures.

2.2 Classifications

The basis for selection of the type of mat required will be based on the long term shear stress level of the mat of the channel in question or the degree of slope to protect and will be designated in the contract. The Type 4 mats are to be used at structural backfills protecting critical

structures, utility cuts, areas where vehicles may be expected to traverse the mat, channels with large heavy drift, and where higher factors of safety, very steep slopes and/or durability concerns are needed as determined by project team and designer and will be specified in the plans by designer.

Turf Reinforcement Matting					
Properties[1]	Type 1	Type 2	Type 3	Type 4	Test Method
Minimum tensile Strength lbs/ft	125	150	175	3000 by 1500	ASTM D6818[2]
UV stability (minimum % tensile retention)	80	80	80	90	ASTM D4355[3] (1000-hr exposure)
Minimum thickness (inches)	0.25	0.25	0.25	0.40	ASTM D6525
Slopes applications	2H:1V or flatter	1.5H:1V or flatter	1H:1V or flatter	1 H: 1V or greater	
Shear stress lbs/ft^2 Channel applications	6.0[4]	8.0[4]	10.0[4]	12.0[4]	ASTM D6459 ASTM D6460-07

[1] For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting alone.
[2]Minimum Average Roll Values for tensile strength of sample material machine direction.
[3]Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.
[4]Maximum permissible shear design values based on short-term (0.5 hr) vegetated data obtained by full scale flume testing ASTM D6459, D6460-07. Based on nondegradable components exclusively. Testing will be done at Independent Hydraulics Facility such as Colorado State University hydraulics laboratory, Utah State University hydraulics laboratory, Texas Transportation Institute (TTI) hydraulics and erosion control laboratory.

2.3 Quality Assurance Sampling, Testing, and Acceptance

A) Provide TRM listed on the Department's List of Approved Materials. Prior to inclusion on the LAM, the manufacturer of TRM must meet the physical and performance criteria as outlined in the specification and submit a Letter Certifying compliance of the product under the above ASTM testing procedures and including a copy of report from Full Scale Independent Hydraulics Facility that Fully Vegetated Shear Stress meets shear stress requirements tested under D6459 and D6460-07.

B) Contractors will provide a Letter of Certification from Manufacturer stating the product name, manufacturer, and that the product MARV product unit testing results meets Department criteria. Provide Letters once per project and for each product.

C) Acceptance shall be in accordance with ASTM D-4759 based on testing performed by a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory using Procedure A of ASTM D-4354.

Current mats meeting the above criteria are shown on the Department's List of Approved Materials.

2.4 Fasteners. When the mat manufacturer does not specify a specific fastener, use steel wire U-shaped staples with a minimum diameter of 0.09 inches (11 gauge), a minimum width of one inch and a minimum length of 12 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils as directed by Engineer or Manufacturer's Representative. Provide staples with colored tops when requested by the Engineer.

3.0 CONSTRUCTION. When requested by the Engineer, provide a Manufacturer's Representative on-site to oversee and approve the initial installation of the mat. When requested by the Engineer, provide a letter from the Manufacturer approving the installation. When there is a conflict between the Department's criteria and the Manufacturer's criteria, construct using the more restrictive. The Engineer and Manufacturer's Representative must approve all alternate installation methods prior to execution. Construct according to the Manufacturer's recommendations and the following as minimum installation technique:

3.1 Site Preparation. Grade areas to be treated with matting and compact. Remove large rocks, soil clods, vegetation, roots, and other sharp objects that could keep the mat from intimate contact with subgrade. Prepare seedbed by loosening the top 2 to 3 inch of soil.

3.2 Installation. Install mats according to Standard Drawing Sepias "Turf Mat Channel Installation" and "Turf Mat Slope Installation." Install mats at the specified elevation and alignment. Anchor the mats with staples with a minimum length of 12 inches. Use longer anchors for installations in sandy, loose, or wet soils as directed by the Engineer or Manufacturer's Representative. The mat should be in direct contact with the soil surface.

4.0 MEASUREMENT. The Department will measure the quantity of Turf Reinforcement Mat by the square yard of surface covered. The Department will not measure preparation of the bed, providing a Manufacturer's Representative, topsoil, or seeding for payment and will consider them incidental to the Turf Reinforcement Mat. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Turf Reinforcement Mat. Seeding and protection will be an incidental item.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
23274EN11F	Turf Reinforcement Mat 1	Square Yard
23275EN11F	Turf Reinforcement Mat 2	Square Yard
23276EN11F	Turf Reinforcement Mat 3	Square Yard
23277EN11F	Turf Reinforcement Mat 4	Square Yard

GEOGRID REINFORCEMENT FOR ASPHALT PAVEMENTS

This Special Note will apply where indicated on the plans or in the proposal. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. This specification covers geogrid used for the reinforcement of asphalt pavements.

2.0 MATERIALS AND EQUIPMENT.

2.1 Geogrid. Furnish fiberglass-reinforced or polyester geogrid coated with an elastomeric polymer. Ensure the geogrid forms a stable network such that the ribs, filaments, or yarns retain their dimensional stability, including selvages. When the Contract specifies, furnish geogrid with a non-woven fabric backing composed of long chain synthetic polymers that are 95 percent by weight polyolefins or polyesters.

A) Physical Requirements. Furnish the specified geogrid type conforming to the Physical Requirements Table and ASTM D 4759. Ensure that each geogrid shipment is accompanied by a manufacturer's certification listing minimum average roll specification values of each lot number for those properties listed in the table.

When the Contract specifies, furnish geogrid with a non-woven fabric backing that conforms to AASHTO M288 for paving fabric, except the minimum melting point is 360 °F.

PROPERTY	TEST METHOD	SPECIFICATION
Tensile Strength, lb/in (min.)	GRI-GG1	560
Elongation at Break, % (max.)	GRI-GG1	5
Melting Point, °F (min.)	ASTM D 276	360
Aperture Size, inch	I. D. Calipered	1.0 by 1.0

B) Packaging, Shipment, and Storage. Ensure that each roll is labeled with the manufacturer's name, product type, style number, lot number, roll number, manufactured date, roll dimensions, chemical composition, and applicable physical properties. Protect the geogrid from direct sunlight, ultraviolet rays, flames, aggressive chemicals, mud, dirt, dust, and debris during all periods of shipment and storage. Keep geogrids dry until installation, and do not store directly on the ground.

2.2 Asphalt Distributor. Conform to 406.02.05.

2.3 Rolling Equipment. Use pneumatic-tired rollers that weigh at least 12 tons and have 7 to 9 tires capable of inflation pressures up to 125 psi. Maintain an inflation pressure in all tires within ± 5 psi of the manufacturer's recommended pressure. Arrange the tires so that the gap between the tires of the front axle is covered by the tires of the rear axle. Mount wheels to provide equal contact pressure under each wheel. Use a tire tread that is satisfactory to the Engineer. Maintain tire size and inflation pressure such that the contact pressure is at least 80 psi.

3.0 CONSTRUCTION.

3.1 Geogrid Representative. Ensure that a representative of the geogrid manufacturer is on the project when work begins, and remains on call as the project progresses, to advise the Engineer.

3.2 Weather Restrictions. Do not place the geogrid when weather conditions, in the opinion of the Engineer, are not suitable. Ensure the air and pavement temperatures sufficient to allow the tack coat to hold the geogrid, and fabric backing when specified, in place. Specifically, ensure the temperature is at least 60 °F and rising.

3.3 Surface Preparation. Perform any needed base repairs and repair all potholes, cracks greater the 1/4 inch, and any badly damaged or rough pavement which may require milling or placement of leveling course. Ensure the surface is dry, clean, dust-free, and between 40 and 140 °F. Using a calibrated distributor truck, apply an asphalt tack coat uniformly at a residual rate of 0.3 gallons per square yard for fabric backed material and at a residual rate of 0.08 gallons per square yard for material without backing. Unless the geogrid is precoated with an adhesive, apply the tack coat to a minimum of 3 inches wider than the area to be covered by the geogrid.

3.4 Geogrid Placement. Place the geogrid while the tack coat is still tacky/broken. Keep the material flat and wrinkle free throughout the installation. Roll the geogrid until the adhesive is activated or the geogrid is seated in the tack coat. Clean the roller with an asphalt release agent. Brooming may be required. On sharp curves, cut the edges and fold the geogrid over in the direction of the placement of the asphalt overlay. Overlap

side joints by one to 2 inches. Overlap all end-of-roll joints by 3 to 6 inches. Ensure that the overlaps are shingled in the direction of paving.

3.5 Asphalt Placement. Place the asphalt overlay at a minimum 2-inch compacted thickness. Pave over the geogrid on the same day of its placement. Except for paving equipment and vehicles, allow no traffic on the grid until the following course of asphalt mixture is placed.

3.6 Geogrid Repair. Repair any visible distress that occurs due to movement of the geogrid immediately after rolling. For small areas, remove the asphalt mixture from the affected area; replace the geogrid in its original position, and replace, level, and compact the asphalt mixture. Cut the geogrid if necessary for it to lie flat.

3.7 Sampling and Testing. The Department will sample the geogrid at the project site according to ASTM D 4354 and KM 64-113 at a frequency the Engineer determines. The Department will test the geogrid for all properties possible given the testing equipment availability. When the Department determines that an individual sample fails to meet any specification requirement, the Department will reject that roll and sample 2 additional rolls from the same lot. When the Department determines that either of these 2 additional samples fails to comply with any part of the specification, the Department will reject the entire quantity of rolls represented by that sample.

4.0 MEASUREMENT. The Department will measure the quantity of geogrid in square yards. The Department will not measure geogrid when the contract indicates that the geogrid are incidental to the work being performed or when no separate bid item for geogrid is listed in the proposal. The Department will not measure providing the geogrid manufacturer's representative for payment and will consider it incidental to the geogrid.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
00110	Geogrid Reinforcement for Asphalt	Square Yard

SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES

This Special Provision will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with granular or cohesive pile core and place structure granular backfill, as the Plans require. Construct the embankment according to the requirements of this Special Provision, the Plans, Standard Drawing RGX 100 and 105, and the 2012 Standard Specifications.

2.0 MATERIALS.

2.1 Granular Embankment. Conform to Subsection 805.10. When Granular Embankment materials are erodible or unstable according to Subsection 805.03.04, use the Special Construction Methods found in 3.2 of the Special Provision.

2.2 Rock Embankment. Provide durable rock from roadway excavation that consists principally of Unweathered Limestone, Durable Shale (SDI equal to or greater than 95 according to KM 64-513), or Durable Sandstone.

2.3 Granular Pile Core. Select a gradation of durable rock to facilitate pile driving that conforms to Subsection 805.11. If granular pile core material hinders pile driving operations, take appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

2.4 Cohesive Pile Core. Conform to Section 206 of the Standard Specifications and use soil with at least 50 percent passing a No. 4 sieve having a minimum Plasticity Index (PI) of 10. In addition, keep the cohesive pile core free of boulders, larger than 6 inches in any dimension, or any other obstructions, which would interfere with drilling operations. If cohesive pile core material interferes with drilling operations, take appropriate means necessary to maintain excavation stability, at no expense to the Department.

2.5 Structure Granular Backfill. Conform to Subsection 805.11

2.6 Geotextile Fabric. Conform to Type I or Type IV in Section 214 and 843 as required in the plans.

3.0 CONSTRUCTION.

3.1 General. Construct roadway embankments at end bents according to Section 206 and in accordance with the Special Provision, the Plans, and Standard Drawings for the full embankment section. In some instances, granular or rock embankment will be required for embankment construction for stability purposes, but this special provision does not prevent the use of soil when appropriate. Refer to the plans for specific details regarding material requirements for embankment construction.

Place and compact granular or cohesive pile core, soil, granular or rock embankment, and structure granular backfill according to the applicable density requirements for the project. When constructing granular or rock embankments, use granular pile core for driven pile foundations and use cohesive pile core for pre-drilled pile or drilled shaft foundations. Place geotextile fabric, Type IV between cohesive pile core and structure

granular backfill and granular or rock embankment.

When granular or rock embankment is required for embankment construction, conform to the general requirements of Subsection 206.03.02 B). In addition, place the material in no greater than 2-foot lifts and compact with a vibrating smooth wheel roller capable of producing a minimum centrifugal force of 15 tons. Apply these requirements to the full width of the embankment for a distance of half the embankment height or 50 feet, whichever is greater, as shown on Standard Drawing RGX-105.

When using granular pile core, install 8-inch perforated underdrain pipe at or near the elevation of the original ground in the approximate locations depicted on the standard drawing, and as the Engineer directs, to ensure positive drainage of the embankment. Wrap the perforated pipe with a fabric of a type recommended by the pipe manufacturer.

After constructing the embankment, excavate for the end bent cap, drive piling or install shafts, place the mortar bed, construct the end bent, and complete the embankment to finish grade according to the construction sequence shown on the Plans or Standard Drawings and as specified hereinafter.

Certain projects may require widening of existing embankments and the removal of substructures. Construct embankment according to the plans. Substructure removal shall be completed according to the plans and Section 203. Excavation may be required at the existing embankment in order to place the structure granular backfill as shown in the Standard Drawings.

After piles are driven or shafts installed (see design drawings), slope the bottom of the excavation towards the ends of the trench as noted on the plans for drainage. Using a separate pour, place concrete mortar, or any class concrete, to provide a base for forming and placing the cap. Place side forms for the end bent after the mortar has set sufficiently to support workmen and forms without being disturbed.

Install 4-inch perforated pipe in accordance with the plans and Standard Drawings. In the event slope protection extends above the elevation of the perforated pipe, extend the pipe through the slope protection.

After placing the end bent cap and removing adjacent forms, fill the excavation with structure granular backfill material to the level of the berm prior to placing beams for the bridge. For soil embankments, place Type IV geotextile fabric between embankment material and structure granular backfill. After completing the end bent backwall, or after completing the span end wall, place the structure granular backfill to subgrade elevation. If the original excavation is enlarged, fill the entire volume with compacted structure granular backfill at no expense to the Department. Do not place backfill before removing adjacent form work. Place structure granular backfill material in trench ditches at the ends of the excavation. Place Geotextile Fabric, Type IV over the surface of structure granular backfill prior to placing aggregate base course.

Tamp the backfill with hand tampers, pneumatic tampers, or other means the Engineer approves. Thoroughly compact the backfill under the overhanging portions of the structure to ensure that the backfill is in intimate contact with the sides of the structure.

Do not apply seeding, sodding, or other vegetation to the exposed granular embankment.

3.2 Special Construction Methods. Erodible or unstable materials may erode even when protected by riprap or channel lining; use the special construction method described below when using these materials.

Use fine aggregates or friable sandstone granular embankment at “dry land” structures only. Do not use them at stream crossings or locations subject to flood waters.

For erodible or unstable materials having 50 percent or more passing the No. 4 sieve, protect with geotextile fabric. Extend the fabric from the original ground to the top of slope over the entire area of the embankment slopes on each side of, and in front of, the

end bent. Cover the fabric with at least 12 inches of non-erodible material.

For erodible or unstable materials having less than 50 percent passing a No. 4 sieve, cover with at least 12 inches of non-erodible material.

Where erodible or unstable granular embankment will be protected by riprap or channel lining, place geotextile fabric between the embankment and the specified slope protection.

4.0 MEASUREMENT.

4.1 Granular Embankment. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment any Granular Embankment that is not called for in the plans.

The Department will not measure for payment any special construction caused by using erodible or unstable materials and will consider it incidental to the Granular Embankment regardless of whether the erodible or unstable material was specified or permitted.

4.2 Rock Embankment. The Department will not measure for payment any rock embankment and will consider it incidental to roadway excavation or embankment in place, as applicable. Rock embankments will be constructed using granular embankment on projects where there is no available rock present within the excavation limits of the project.

4.3 Granular Pile Core. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment furnishing and placing 8-inch perforated underdrain pipe and will consider it incidental to the Granular pile core. The Department will not measure for payment any granular pile core that is necessary because the contractor elects to use granular or rock embankment when it is not specified in the plans.

4.4 Cohesive Pile Core. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204.

4.5 Structure Granular Backfill. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure any additional material required for backfill outside the limits shown on the Plans and Standard Drawings for payment and will consider it incidental to the work.

The Department will not measure structure excavation at the end bent or an existing embankment for payment and will consider it incidental to Structure Granular Backfill.

The Department will not measure for payment the 4-inch perforated underdrain pipe and will consider it incidental to the Structure Granular Backfill.

4.6 Geotextile Fabric. The Department will measure the quantities as specified in Section 214. The Department will not measure the quantity of fabric used for separating granular or rock embankment and cohesive pile core and will consider it incidental to cohesive pile core.

4.7 End Bent. The Department will measure the quantities according to the

Contract. The Department will not measure furnishing and placing the 2-inch mortar or concrete bed for payment and will consider it incidental to the end bent construction.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
02223	Granular Embankment	Cubic Yards
20209EP69	Granular Pile Core	Cubic Yards
20210EP69	Cohesive Pile Core	Cubic Yards
02231	Structure Granular Backfill	Cubic Yards
02596, 02599	Geotextile Fabric, Type	See Section 214

The Department will consider payment as full compensation for all work required in this provision.

June 15, 2012

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

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

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: KY140100 10/24/2014 KY100

Superseded General Decision Number: KY20130100

State: Kentucky

Construction Type: Highway

Counties: Anderson, Bath, Bourbon, Boyd, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grant, Grayson, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Mason, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington and Woodford 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).

Modification Number	Publication Date
0	01/03/2014
1	02/14/2014
2	04/18/2014
3	05/09/2014
4	05/23/2014
5	06/06/2014
6	06/27/2014
7	07/04/2014
8	07/18/2014
9	07/25/2014
10	08/22/2014
11	10/24/2014

BRIN0004-003 06/01/2011

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER	$ 24.11	10.07

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* BRKY0001-005 06/01/2014

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 25.37	10.50

BRKY0002-006 06/01/2011

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 26.57	10.26

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* BRKY0007-004 06/01/2014

BOYD, CARTER, ELLIOT, FLEMING, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 30.57	17.94

BRKY0017-004 06/01/2009

ANDERSON, BATH, BOURBON, BOYLE, CLARK, FAYETTE, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, OWEN, SCOTT, WASHINGTON & WOODFORD COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 24.11	9.97

CARP0064-001 04/01/2014

	Rates	Fringes
CARPENTER	$ 27.50	14.96
Diver	$ 41.63	14.96
PILEDRIVERMAN	$ 27.75	14.96

ELEC0212-008 06/02/2014

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 26.74	16.45

ELEC0212-014 07/01/2013

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician	$ 22.50	9.51

ELEC0317-012 05/28/2014

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
ELECTRICIAN		
Cable Splicer	$ 32.68	18.13
Electrician	$ 32.62	21.45

ELEC0369-007 05/29/2013

ANDERSON, BATH, BOURBON, BOYLE, BRECKINRIDGE, BULLITT, CARROLL, CLARK, FAYETTE, FRAONKLIN, GRAYSON, HARDIN, HARRISON, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, MONTGOMERY, NELSON, NICHOLAS, OLDHAM, OWEN, ROBERTSON, SCOTT, SHELBY, SPENCER, TRIMBLE, WASHINGTON, & WOODFORD COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	$ 29.48	14.37

ELEC0575-002 06/02/2014

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	$ 31.70	14.21

ENGI0181-018 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 leads equals or exceeds 150 ft. - $1.00 over Group 1 rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID 10%
ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT WORK.

IRON0044-009 06/01/2013

BRACKEN, GALLATIN, GRANT, HARRISON, ROBERTSON,
BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);
CARROLL (Eastern third, including the Township of Ghent);
FLEMING (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
MASON (Western two-thirds, including Townships of Dover, Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);
NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);
OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);
SCOTT (Northern two-thirds, including Townships of Biddle, Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall)

	Rates	Fringes

IRONWORKER
Fence Erector.....$ 22.50 18.40
Structural.....$ 24.80 18.40

IRON0070-006 06/01/2014

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN, GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE, WASHINGTON & WOODFORD
BOURBON (Southern two-thirds, including Townships of Austerlity, Centerville, Clintonville, Elizabeth, Hutchison, Littlerock, North Middletown & Paris);
CARROLL (Western two-thirds, including Townships of Carrollton, Easterday, English, Locust, Louis, Prestonville & Worthville);
CLARK (Western two-thirds, including Townships of Becknerville, Flanagan, Ford, Pine Grove, Winchester & Wyandotte);
OWEN (Eastern eighth, including Townships of Glenmary, Gratz, Monterey, Perry Park & Tacketts Mill);
SCOTT (Southern third, including Townships of Georgetown, Great Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER.....	$ 26.97	19.75

IRON0372-006 06/01/2013

BRACKEN, GALLATIN, GRANT, HARRISON and ROBERTSON
BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);
CARROLL (Eastern third, including the Township of Ghent);
FLEMING (Western part, Excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains,
Ringos Mills, Tilton & Wallingford);
MASON (Western two-thirds, including Townships of Dover, Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);
NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);
OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);
SCOTT (Northern two-thirds, including Townships of Biddle, Davis,Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall) COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING.....	$ 26.47	19.30

IRON0769-007 12/01/2012

BATH, BOYD, CARTER, ELLIOTT, GREENUP, LEWIS, MONTGOMERY & ROWAN
CLARK (Eastern third, including townships of Bloomingdale,
Hunt, Indian Fields, Kiddville, Loglick, Rightangele & Thomson);
FLEMING (Townships of Beechburg, Colfax, Elizaville,
Flemingsburg, Flemingsburg Junction, Foxport, Grange City,
Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton,
Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains,
Ringos Mills, Tilton & Wallingford);
MASON (Eastern third, including Townships of Helena, Marshall,
Orangeburg, Plumville & Springdale);
NICHOLAS (Eastern eighth, including the Township of Moorefield
Sprout)

	Rates	Fringes
IRONWORKER	$ 32.54	20.18

LABO0189-003 07/01/2014

BATH, BOURBON, BOYD, BOYLE, BRACKEN, CARTER, CLARK, ELLIOTT,
FAYETTE, FLEMING, FRANKLIN, GALLATIN, GRANT, GREENUP, HARRISON,
JESSAMINE, LEWIS, MADISON, MASON, MERCER, MONTGOMERY, NICHOLAS,
OWEN, ROBERTSON, ROWAN, SCOTT, & WOOLFORD COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 21.80	11.96
GROUP 2	$ 22.05	11.96
GROUP 3	$ 22.10	11.96
GROUP 4	$ 22.70	11.96

LABORERS 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; 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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LABO0189-008 07/01/2014

ANDERSON, BULLITT, CARROLL, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 22.71	11.05
GROUP 2	$ 22.96	11.05
GROUP 3	$ 23.01	11.05
GROUP 4	$ 23.61	11.05

LABORERS 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; 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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LABO0189-009 07/01/2014

BRECKINRIDGE & GRAYSON 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

LABORERS 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; 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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PAIN0012-005 06/11/2005

BATH, BOURBON, BOYLE, CLARK, FAYETTE, FLEMING, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, ROBERTSON, SCOTT & WOODFORD COUNTIES:

	Rates	Fringes
PAINTER		
Bridge/Equipment Tender and/or Containment Builder	$ 18.90	5.90
Brush & Roller	$ 21.30	5.90
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement	$ 22.30	5.90
Sandblasting & Waterblasting	$ 22.05	5.90
Spray	$ 21.80	5.90

PAIN0012-017 05/01/2014

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

	Rates	Fringes
PAINTER (Heavy & Highway Bridges - Guardrails - Lightpoles - Striping)		
Bridge Equipment Tender and Containment Builder	$ 20.73	8.71
Brush & Roller	$ 23.39	8.71
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement	$ 24.39	8.71
Sandblasting & Water Blasting	$ 24.14	8.71
Spray	$ 23.89	8.71

PAIN0118-004 06/01/2014

ANDERSON, BRECKINRIDGE, BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES:

	Rates	Fringes
PAINTER		
Brush & Roller	$ 18.50	12.02
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning	$ 19.00	12.02

PAIN1072-003 12/01/2013

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations	$ 31.03	15.10
Power Generating Facilities	$ 27.79	15.10

PLUM0248-003 06/01/2014

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
Plumber and Steamfitter	$ 33.00	18.95

PLUM0392-007 06/01/2014

BRACKEN, CARROLL (Eastern Half), GALLATIN, GRANT, MASON, OWEN & ROBERTSON COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters	$ 29.80	17.79

PLUM0502-003 08/01/2013

BRECKINRIDGE, BULLITT, CARROLL (Western Half), FRANKLIN (Western three-fourths), GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

	Rates	Fringes
PLUMBER	$ 32.00	17.17

SUKY2010-160 10/08/2001

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 16.57	7.34
GROUP 2	$ 16.68	7.34
GROUP 3	$ 16.86	7.34
GROUP 4	$ 16.96	7.34

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Mobile Batch Truck Tender

GROUP 2 - Greaser; Tire Changer; & Mechanic Tender

GROUP 3 - Single Axle Dump; Flatbed; Semi-trailer or Pole Trailer when used to pull building materials and equipment;

Tandem Axle Dump; Distributor; Mixer; & Truck Mechanic

GROUP 4 - Euclid & Other Heavy Earthmoving Equipment & Lowboy; Articulator Cat; 5-Axle Vehicle; Winch & A-Frame when used in transporting materials; Ross Carrier; Forklift when used to transport building materials; & Pavement Breaker

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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 union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows 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. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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-III- 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
11.2%	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 Oldham 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

141501

PROPOSAL BID ITEMS

Report Date 11/18/14

Section: 0001 - PAVING - ASPHALT ALTERNATE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	16,842.00	TON		$	
0020	00020		TRAFFIC BOUND BASE	35.00	TON		$	
0030	00190		LEVELING & WEDGING PG64-22	55.00	TON		$	
0040	00212		CL2 ASPH BASE 1.00D PG64-22	22,205.00	TON		$	
0050	00221		CL2 ASPH BASE 0.75D PG64-22	1,356.00	TON		$	
0060	00307		CL2 ASPH SURF 0.38B PG64-22	3,035.00	TON		$	
0070	02101		CEM CONC ENT PAVEMENT-8 IN	424.00	SQYD		$	
0080	10203ND		PAVEMENT ADJUSTMENT (ASPHALT)	1.00	LS	221,702.00	$	$221,702.00

Section: 0002 - PAVING - CONCRETE ALTERNATE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0090	00003		CRUSHED STONE BASE	13,121.00	TON		$	
0100	00005		GEOGRID REINFORCEMENT FOR SUBGRADE	4,000.00	SQYD		$	
0110	00020		TRAFFIC BOUND BASE	35.00	TON		$	
0120	00190		LEVELING & WEDGING PG64-22	5.00	TON		$	
0130	00212		CL2 ASPH BASE 1.00D PG64-22	652.00	TON		$	
0140	00221		CL2 ASPH BASE 0.75D PG64-22	1,356.00	TON		$	
0150	00307		CL2 ASPH SURF 0.38B PG64-22	578.00	TON		$	
0160	02073		JPC PAVEMENT-9 IN	35,740.00	SQYD		$	
0170	02101		CEM CONC ENT PAVEMENT-8 IN	424.00	SQYD		$	
0180	10203ND		PAVEMENT ADJUSTMENT (CONCRETE)	1.00	LS	141,591.00	$	$141,591.00

Section: 0003 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0190	00078		CRUSHED AGGREGATE SIZE NO 2	79,511.00	TON		$	
0200	01000		PERFORATED PIPE-4 IN	205.00	LF		$	
0210	01010		NON-PERFORATED PIPE-4 IN	32.00	LF		$	
0220	01020		PERF PIPE HEADWALL TY 1-4 IN	1.00	EACH		$	
0230	01028		PERF PIPE HEADWALL TY 3-4 IN	1.00	EACH		$	
0240	01032		PERF PIPE HEADWALL TY 4-4 IN	2.00	EACH		$	
0250	01810		STANDARD CURB AND GUTTER	198.00	LF		$	
0260	01845		ISLAND INTEGRAL CURB	78.00	LF		$	
0270	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	66.00	EACH		$	
0280	02014		BARRICADE-TYPE III	18.00	EACH		$	
0290	02091		REMOVE PAVEMENT	4,740.00	SQYD		$	
0300	02159		TEMP DITCH	9,024.00	LF		$	
0310	02223		GRANULAR EMBANKMENT	1,500.00	CUYD		$	
0320	02230		EMBANKMENT IN PLACE	133,016.00	CUYD		$	
0330	02351		GUARDRAIL-STEEL W BEAM-S FACE	3,600.00	LF		$	
0340	02360		GUARDRAIL TERMINAL SECTION NO 1	4.00	EACH		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0350	02367		GUARDRAIL END TREATMENT TYPE 1	4.00	EACH		$	
0360	02378		GUARDRAIL CONNECTOR TO BRIDGE END TY D	4.00	EACH		$	
0370	02381		REMOVE GUARDRAIL	1,470.00	LF		$	
0380	02429		RIGHT-OF-WAY MONUMENT TYPE 1	78.00	EACH		$	
0390	02430		RIGHT-OF-WAY MONUMENT TYPE 1A	1.00	EACH		$	
0400	02432		WITNESS POST	20.00	EACH		$	
0410	02469		CLEAN SINKHOLE	2.00	EACH		$	
0420	02471		FILL AND CAP SINKHOLE	2.00	EACH		$	
0430	02483		CHANNEL LINING CLASS II	335.00	TON		$	
0440	02484		CHANNEL LINING CLASS III	1,573.00	TON		$	
0450	02545		CLEARING AND GRUBBING (APPROXIMATELY 24.53 ACRES)	1.00	LS		$	
0460	02562		TEMPORARY SIGNS	272.00	SQFT		$	
0470	02585		EDGE KEY	124.00	LF		$	
0480	02596		FABRIC-GEOTEXTILE TYPE I	2,135.00	SQYD		$	
0490	02598		FABRIC-GEOTEXTILE TYPE III	875.00	SQYD		$	
0500	02599		FABRIC-GEOTEXTILE TYPE IV	150,083.00	SQYD		$	
0510	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0520	02651		DIVERSIONS (BY-PASS DETOURS) MAINLINE LT. STA. 70+16 TO 82+76	1.00	LS		$	
0530	02651		DIVERSIONS (BY-PASS DETOURS) MAINLINE LT. STA. 87+50 TO 93+85	1.00	LS		$	
0540	02651		DIVERSIONS (BY-PASS DETOURS) MAINLINE LT. STA. 122+50 TO 126+55	1.00	LS		$	
0550	02651		DIVERSIONS (BY-PASS DETOURS) ABBOTT LANE RT. STA. 50+00 TO 56+55	1.00	LS		$	
0560	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0570	02690		SAFELOADING	7.00	CUYD		$	
0580	02696		SHOULDER RUMBLE STRIPS-SAWED	17,700.00	LF		$	
0590	02701		TEMP SILT FENCE	9,024.00	LF		$	
0600	02703		SILT TRAP TYPE A	29.00	EACH		$	
0610	02704		SILT TRAP TYPE B	29.00	EACH		$	
0620	02705		SILT TRAP TYPE C	29.00	EACH		$	
0630	02706		CLEAN SILT TRAP TYPE A	115.00	EACH		$	
0640	02707		CLEAN SILT TRAP TYPE B	115.00	EACH		$	
0650	02708		CLEAN SILT TRAP TYPE C	115.00	EACH		$	
0660	02709		CLEAN TEMP SILT FENCE	36,096.00	LF		$	
0670	02726		STAKING	1.00	LS		$	
0680	02731		REMOVE STRUCTURE	1.00	LS		$	
0690	05950		EROSION CONTROL BLANKET	2,807.00	SQYD		$	
0700	05952		TEMP MULCH	139,247.00	SQYD		$	
0710	05953		TEMP SEEDING AND PROTECTION	13,925.00	SQYD		$	
0720	05963		INITIAL FERTILIZER	5.00	TON		$	
0730	05964		20-10-10 FERTILIZER	1.00	TON		$	
0740	05985		SEEDING AND PROTECTION	139,247.00	SQYD		$	
0750	05989		SPECIAL SEEDING CROWN VETCH	28,100.00	SQYD		$	
0760	05990		SODDING	1,000.00	SQYD		$	
0770	05992		AGRICULTURAL LIMESTONE	87.00	TON		$	
0780	06510		PAVE STRIPING-TEMP PAINT-4 IN	19,630.00	LF		$	
0790	06514		PAVE STRIPING-PERM PAINT-4 IN	37,288.00	LF		$	
0800	06567		PAVE MARKING-THERMO STOP BAR-12IN	22.00	LF		$	

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PROPOSAL BID ITEMS

Report Date 11/18/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0810	06568		PAVE MARKING-THERMO STOP BAR-24IN	24.00	LF		$	
0820	06570		PAVE MARKING-PAINT CROSS-HATCH	685.00	SQFT		$	
0830	06574		PAVE MARKING-THERMO CURV ARROW	14.00	EACH		$	
0840	06589		PAVEMENT MARKER TYPE V-MW	27.00	EACH		$	
0850	06591		PAVEMENT MARKER TYPE V-BY	345.00	EACH		$	
0860	08100		CONCRETE-CLASS A	19.00	CUYD		$	
0870	08150		STEEL REINFORCEMENT	396.00	LB		$	
0880	20209EP69		GRANULAR PILE CORE	1,002.00	CUYD		$	
0890	23131ER701		PIPELINE VIDEO INSPECTION	771.00	LF		$	
0900	23274EN11F		TURF REINFORCEMENT MAT 1	8,386.00	SQYD		$	

Section: 0004 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0910	00440		ENTRANCE PIPE-15 IN	374.00	LF		$	
0920	00441		ENTRANCE PIPE-18 IN	196.00	LF		$	
0930	00451		ENTRANCE PIPE-18 IN EQUIV	48.00	LF		$	
0940	00462		CULVERT PIPE-18 IN	75.00	LF		$	
0950	00521		STORM SEWER PIPE-15 IN	146.00	LF		$	
0960	00522		STORM SEWER PIPE-18 IN	445.00	LF		$	
0970	00524		STORM SEWER PIPE-24 IN	105.00	LF		$	
0980	01204		PIPE CULVERT HEADWALL-18 IN	1.00	EACH		$	
0990	01370		METAL END SECTION TY 1-15 IN	18.00	EACH		$	
1000	01371		METAL END SECTION TY 1-18 IN	9.00	EACH		$	
1010	01390		METAL END SECTION TY 3-15 IN	2.00	EACH		$	
1020	01391		METAL END SECTION TY 3-18 IN	8.00	EACH		$	
1030	01393		METAL END SECTION TY 3-24 IN	2.00	EACH		$	
1040	01456		CURB BOX INLET TYPE A	2.00	EACH		$	
1050	01490		DROP BOX INLET TYPE 1	4.00	EACH		$	
1060	01496		DROP BOX INLET TYPE 3	1.00	EACH		$	
1070	01505		DROP BOX INLET TYPE 5B	2.00	EACH		$	
1080	01644		JUNCTION BOX-30 IN	2.00	EACH		$	
1090	01691		FLUME INLET TYPE 2	1.00	EACH		$	
1100	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	1,967.90	SQYD	$2.00	$	$3,935.80
1110	02625		REMOVE HEADWALL	3.00	EACH		$	
1120	24697EC		METAL END SECTION TY 1-18 IN EQUIV	4.00	EACH		$	

Section: 0005 - BRIDGE - CURRY'S FORK - DWG, 24912

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1130	02231		STRUCTURE GRANULAR BACKFILL	345.00	CUYD		$	
1140	02998		MASONRY COATING	1,141.00	SQYD		$	
1150	03299		ARMORED EDGE FOR CONCRETE	102.70	LF		$	
1160	08001		STRUCTURE EXCAVATION-COMMON	364.00	CUYD		$	
1170	08002		STRUCTURE EXCAV-SOLID ROCK	522.00	CUYD		$	
1180	08019		CYCLOPEAN STONE RIP RAP	1,102.00	TON		$	
1190	08033		TEST PILES	53.00	LF		$	
1200	08046		PILES-STEEL HP12X53	696.00	LF		$	

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PROPOSAL BID ITEMS

Report Date 11/18/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1210	08094		PILE POINTS-12 IN	15.00	EACH		$	
1220	08100		CONCRETE-CLASS A	612.60	CUYD		$	
1230	08104		CONCRETE-CLASS AA	803.90	CUYD		$	
1240	08150		STEEL REINFORCEMENT	106,324.00	LB		$	
1250	08151		STEEL REINFORCEMENT-EPOXY COATED	189,326.00	LB		$	
1260	24463ED		PPC I-BEAM HN 54 49	2,476.50	LF		$	
1270	24684EN		RAIL SYSTEM TYPE 4	714.40	LF		$	

Section: 0006 - BRIDGE - CULVERT OVER UNNAMED CREEK - DWG. 26743

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1280	08002		STRUCTURE EXCAV-SOLID ROCK	256.00	CUYD		$	
1290	08003		FOUNDATION PREPARATION	1.00	LS		$	
1300	08100		CONCRETE-CLASS A	429.80	CUYD		$	
1310	08150		STEEL REINFORCEMENT	63,871.00	LB		$	

Section: 0007 - WATERLINE - LOUISVILLE WATER COMPANY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1320	01081		STEEL ENCASEMENT PIPE-24 IN	60.00	LF		$	
1330	01083		STEEL ENCASEMENT PIPE-BORE&JACK-12 IN (BENEATH KY 22 W/ CASING SPACERS)	75.00	LF		$	
1340	01093		DUCTILE IRON PIPE-6 IN	965.00	LF		$	
1350	01099		DUCTILE IRON PIPE-12 IN	625.00	LF		$	
1360	02555		CONCRETE-CLASS B (CONCRETE THRUST BLOCK)	10.00	CUYD		$	
1370	02606		FIRE HYDRANT (6 INCH)	1.00	EACH		$	
1380	03360		COPPER PIPE-3/4 IN	400.00	LF		$	
1390	03361		COPPER PIPE-1 IN	120.00	LF		$	
1400	03382		PVC PIPE-3 IN (WATER MAIN)	1,145.00	LF		$	
1410	03383		PVC PIPE-4 IN (WATER MAIN)	20.00	LF		$	
1420	03385		PVC PIPE-6 IN (WATER MAIN)	435.00	LF		$	
1430	03387		PVC PIPE-8 IN (WATER MAIN)	1,035.00	LF		$	
1440	03389		PVC PIPE-10 IN (WATER MAIN)	55.00	LF		$	
1450	03391		PVC PIPE-12 IN (WATER MAIN)	790.00	LF		$	
1460	03431		RELOCATE WATER METER	12.00	EACH		$	
1470	03434		REMOVE FIRE HYDRANT	2.00	EACH		$	
1480	03439		FLUSH HYDRANT (3 INCH POST)	1.00	EACH		$	
1490	03464		TIE-IN 4 IN (DRY CONNECT)	1.00	EACH		$	
1500	03466		TIE-IN 6 IN (DRY CONNECT)	1.00	EACH		$	

141501

PROPOSAL BID ITEMS

Report Date 11/18/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1510	03468		TIE-IN 8 IN (DRY CONNECT)	3.00	EACH		$	
1520	03470		TIE-IN 10 IN (DRY CONNECT)	1.00	EACH		$	
1530	03472		TIE-IN 12 IN	2.00	EACH		$	
1540	03523		GATE VALVE-3 IN (VALVE & BOX)	1.00	EACH		$	
1550	03524		GATE VALVE-4 IN (VALVE & BOX)	1.00	EACH		$	
1560	03526		GATE VALVE-6 IN (RESILIENT SEAL)	1.00	EACH		$	
1570	03526		GATE VALVE-6 IN (VALVE & BOX)	4.00	EACH		$	
1580	03528		GATE VALVE-8 IN (VALVE & BOX)	6.00	EACH		$	
1590	03530		GATE VALVE-10 IN (VALVE & BOX)	1.00	EACH		$	
1600	03532		GATE VALVE-12 IN (RESILIENT SEAL)	3.00	EACH		$	
1610	03532		GATE VALVE-12 IN (VALVE & BOX)	2.00	EACH		$	
1620	03554		BEND 45 DEG 6 IN	4.00	EACH		$	
1630	03556		BEND 45 DEG 12 IN	8.00	EACH		$	
1640	20137EN		POLYWRAP	1,800.00	LF		$	
1650	20138EC		POLYTAPE	20.00	EACH		$	
1660	20150EC		TRANSFER SERVICE (1 INCH)	2.00	EACH		$	
1670	20329EC		INSTALL FIRE HYDRANT	3.00	EACH		$	
1680	20708ND		CUT AND PLUG 12 IN	1.00	EACH		$	
1690	20769ND		WET TAP 6 IN (CONNECT)	1.00	EACH		$	
1700	20821ND		TEE 12 IN X 12 IN	1.00	EACH		$	
1710	20834ED		KEYTUBE 7 IN	7.00	EACH		$	
1720	20835ND		ROUNDTOP AND LID #2	7.00	EACH		$	
1730	20888ED		DUCTILE IRON FITTINGS (MJ)	1.50	TON		$	
1740	20890ND		CUT AND CAP 10 IN	1.00	EACH		$	
1750	20961ND		PLUG-6 IN	1.00	EACH		$	
1760	21110ND		RENEW SERVICE (3/4 INCH)	9.00	EACH		$	
1770	21114ND		CUT AND PLUG 6 IN	1.00	EACH		$	
1780	21211ND		CUT & CAP-4 IN	1.00	EACH		$	
1790	21455ND		ABANDON VALVE	2.00	EACH		$	
1800	21701EN		POLYETHYLENE PIPE-1 IN (SERVICE LINE)	1,355.00	LF		$	
1810	21860EN		OPEN CUT AND CASE FOR 8 IN WATERLINE (STEEL ENCASEMENT BENEATH ASPHALT DRIVE W/ CASING SPACERS)	70.00	LF		$	
1820	22012NN		CUT AND CAP WATERLINE (8 INCH)	2.00	EACH		$	
1830	22012NN		CUT AND CAP WATERLINE (6 INCH)	3.00	EACH		$	
1840	22610NN		LINE STOPPER-6 IN	1.00	EACH		$	
1850	22668EN		DIRECTIONAL BORE (2 IN PE CASING PIPE)	1,290.00	LF		$	

141501

PROPOSAL BID ITEMS

Report Date 11/18/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1860	23094ND		REDUCER-12 IN X 6 IN	1.00	EACH		$	
1870	23918EC		DUCTILE IRON PIPE-RESTRAINED-12 IN (JOINT)	90.00	LF		$	
1880	24238EN		BORE AND JACK PIPE-14 IN (STEEL ENCASEMENT BENEATH ABBOTT LANE (KY 2858) W/ CASING SPACERS)	75.00	LF		$	
1890	24238EN		BORE AND JACK PIPE-14 IN (STEEL ENCASEMENT BENEATH HERITAGE HILLS DRIVE W/ CASING SPACERS)	60.00	LF		$	
1900	24240ED		OPEN CUT W/ STEEL ENCASEMENT-18 IN (BENEATH EXISITING ASPHALT DRIVE W/ CASING SPACERS)	45.00	LF		$	
1910	24243EC		OPEN CUT W/ STEEL ENCASEMENT-14 IN (IN TEXAS GAS EASEMENT W/ CASING SPACERS)	200.00	LF		$	
1920	24480EC		HYDROSTATIC TEST WATER MAIN (PER LWC SPECIFICATIONS)	1.00	EACH		$	
1930	24699EC		INSERTION VALVE (10 INCH)	1.00	EACH		$	
1940	24699EC		INSERTION VALVE (8 INCH)	1.00	EACH		$	
1950	24699EC		INSERTION VALVE (6 INCH)	1.00	EACH		$	
1960	24699EC		INSERTION VALVE (4 INCH)	1.00	EACH		$	
1970	30065		YARD HYDRANT (3/4 INCH)	1.00	EACH		$	

Section: 0008 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1980	02568		MOBILIZATION	1.00	LS		$	
1990	02569		DEMOBILIZATION	1.00	LS		$	