



CALL NO. 107

CONTRACT ID. 151275

OLDHAM COUNTY

FED/STATE PROJECT NUMBER STP 5162 (021)

DESCRIPTION KY 393

WORK TYPE GRADE & DRAIN WITH ASPHALT SURFACE

PRIMARY COMPLETION DATE 6/1/2017

LETTING DATE: November 20,2015

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME November 20,2015. 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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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 05

CONTRACT ID - 151275

STP 5162 (021)

COUNTY - OLDHAM

PCN - DE09303931575

STP 5162 (021)

KY 393 (MP 5.130) KY-393 RECONSTRUCTION FROM 140 FEET SOUTH OF RAILROAD CROSSING (CSX)
EXTENDING NORTHWEST TOWARDS KY-146 ENDING AT STATION 12+00 (MP 7.640), A DISTANCE OF 0.96
MILES.GRADE & DRAIN WITH ASPHALT SURFACE SYP NO. 05-00234.10.

GEOGRAPHIC COORDINATES LATITUDE 38:22:56.00 LONGITUDE 85:25:48.00

COMPLETION DATE(S):

COMPLETED BY 06/01/2017

APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

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

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

SPECIAL NOTE FOR 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



Steven L. Beshear
Governor

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

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 14-35 DBE, within 7 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 certainty 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 out 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.

04/29/2015

PROJECT TRAFFIC COORDINATOR (PTC)

Be advised this project is a significant project pursuant to section 112.03.12.

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.

FUEL AND ASPHALT PAY ADJUSTMENT

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

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.

**Oldham County
KY 393 Reconstruction
5-234.10**

SPECIAL NOTE FOR AWARD OF CONTRACT

Due to pending Environmental Permit, in accordance to section 103.02 of the Standard Specifications for Road and Bridge Construction, the Department may hold and not award the contract for a period not to exceed sixty (60) calendar days from the date of letting.

SPECIAL NOTE

For Tree Removal

**Oldham County
KY-393 Reconstruction
Item No. 5-234.10**

NO CLEARING OF TREES 3 INCHES OR GREATER (DIAMETER BREAST
HEIGHT) FROM APRIL 1 – OCTOBER 14.

**If there are any questions regarding this note, please contact David Waldner,
Director, Division of Environmental Analysis, 200 Mero Street, Frankfort, KY
40601, Phone: (502) 564-7250.**

**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”.

SPECIAL NOTE FOR PIPELINE INSPECTION

1.0 DESCRIPTION. The Department will perform visual inspections on all pipe on the project. A video inspection will be required on projects having more than 250 linear feet of storm sewer and/or culvert pipe and on routes with an ADT of greater than 1,000 vehicles. Conduct video inspections on all pipe located under the roadway and 50 percent of the remaining pipe not under the roadway. Storm sewer runs and outfall pipes not under the roadway take precedence over rural entrance pipes. Contractors performing this item of work must be prequalified with the Department in the work type J51 (Video Pipe Inspection and Cleaning). Deflection testing shall be completed using a mandrel in accordance with the procedure outlined below or by physical measurement for pipes greater than 36 inches in diameter. Mandrel testing for deflection must be completed prior to the video inspection testing. Unless otherwise noted, Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

2.0 VIDEO INSPECTION. Ensure pipe is clear of water, debris or obstructions. Complete the video inspection and any necessary measurement prior to placing the final surface over any pipe. When paving will not be delayed, take measurements 30 days or more after the completion of earthwork to within 1 foot of the finished subgrade. Notify the Engineer a minimum of 24 hours in advance of inspection and notify the Engineer immediately if distresses or locations of improper installation are logged.

2.1 INSPECTION FOR DEFECTS AND DISTRESSES

A) Begin at the outlet end and proceed through to the inlet at a speed less than or equal to 30 ft/minute. Remove blockages that will prohibit a continuous operation.

B) Document locations of all observed defects and distresses including but not limited to: cracking, spalling, slabbing, exposed reinforcing steel, sags, joint offsets, joint separations, deflections, improper joints/connections, blockages, leaks, rips, tears, buckling, deviation from line and grade, damaged coatings/paved inverts, and other anomalies not consistent with a properly installed pipe.

C) During the video inspection provide a continuous 360 degree pan of every pipe joint.

D) Identify and measure all cracks greater than 0.1" and joint separations greater than 0.5".

E) Video Inspections are conducted from junction to junction which defines a pipe run. A junction is defined as a headwall, drop box inlet, curb box inlet, manhole, buried junction, or other structure that disturbs the continuity of the pipe. Multiple pipe inspections may be conducted from a single set up location, but each pipe run must be on a separate video file and all locations are to be referenced from nearest junction relative to that pipe run.

F) Record and submit all data on the TC 64-765 and TC 64-766 forms.

3.0 MANDREL TESTING. Mandrel testing will be used for deflection testing. For use on Corrugated Metal Pipe, High Density Polyethylene Pipe, and Polyvinyl Chloride Pipe,

use a mandrel device with an odd number of legs (9 minimum) having a length not less than the outside diameter of the mandrel. The diameter of the mandrel at any point shall not be less than the diameter specified in Section 3.6. Mandrels can be a fixed size or a variable size.

3.1 Use a proving ring or other method recommended by the mandrel manufacturer to verify mandrel diameter prior to inspection. Provide verification documentation for each size mandrel to the Engineer.

3.2 All deflection measurements are to be based off of the AASHTO Nominal Diameters. Refer to the chart in section 3.6.

3.3 Begin by using a mandrel set to the 5.0% deflection limit. Place the mandrel in the inlet end of the pipe and pull through to the outlet end. If resistance is met prior to completing the entire run, record the maximum distance achieved from the inlet side, then remove the mandrel and continue the inspection from the outlet end of the pipe toward the inlet end. Record the maximum distance achieved from the outlet side.

3.4 If no resistance is met at 5.0% then the inspection is complete. If resistance occurred at 5.0% then repeat 3.1 and 3.2 with the mandrel set to the 10.0% deflection limit. If the deflection of entire pipe run cannot be verified with the mandrel then immediately notify the Engineer.

3.5 Care must be taken when using a mandrel in all pipe material types and lining/coating scenarios. Pipe damaged during the mandrel inspection will be video inspected to determine the extent of the damage. If the damaged pipe was video inspected prior to mandrel inspection then a new video inspection is warranted and supersedes the first video inspection. Immediately notify the Engineer of any damages incurred during the mandrel inspection and submit a revised video inspection report.

3.6 AASHTO Nominal Diameters and Maximum Deflection Limits.

Base Pipe Diameter (inches)	AASHTO Nominal Diameter (inches)	Max. Deflection Limit (inches)	
		5.0%	10.0%
15	14.76	14.02	13.28
18	17.72	16.83	15.95
24	23.62	22.44	21.26
30	29.53	28.05	26.58
36	35.43	33.66	31.89
42	41.34	39.27	37.21
48	47.24	44.88	42.52
54	53.15	50.49	47.84
60	59.06	56.11	53.15

4.0 PHYSICAL MEASUREMENT OF PIPE DEFLECTION. Alternate method for deflection testing when there is available access or the pipe is greater than 36 inches in diameter, as per 4.1. Use a contact or non-contact distance instrument. A leveling device is recommended for establishing or verifying vertical and horizontal control.

4.1 Physical measurements may be taken after installation and compared to the AASHTO Nominal Diameter of the pipe as per Section 3.6. When this method is used, determine the smallest interior diameter of the pipe as measured through the center point of the pipe (D2). All measurements are to be taken from the inside crest of the corrugation. Take the D2 measurements at the most deflected portion of the pipe run in question and at intervals no greater than ten (10) feet through the run. Calculate the deflection as follows:

$$\% \text{ Deflection} = [(AASHTO \text{ Nominal Diameter} - D2) / AASHTO \text{ Nominal Diameter}] \times 100\%$$

Note: The Engineer may require that preset monitoring points be established in the culvert prior to backfilling. For these points the pre-installation measured diameter (D1) is measured and recorded. Deflection may then be calculated from the following formula:

$$\% \text{ Deflection} = [(D1 - D2) / D1] (100\%)$$

4.2 Record and submit all data.

5.0 DEDUCTION SCHEDULE. All pipe deductions shall be handled in accordance with the tables shown below.

FLEXIBLE PIPE DEFLECTION	
Amount of Deflection (%)	Payment
0.0 to 5.0	100% of the Unit Bid Price
5.1 to 9.9	50% of the Unit Bid Price ⁽¹⁾
10 or greater	Remove and Replace ⁽²⁾

⁽¹⁾ Provide Structural Analysis for HDPE and metal pipe. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price. ⁽²⁾ The Department may allow the pipe to remain in place with no pay to the Contractor in instances where it is in the best interest to the public and where the structural analysis demonstrates that the pipe should function adequately.

RIGID PIPE REMEDIATION TABLE PIPE	
Crack Width (inches)	Payment
≤ 0.1	100% of the Unit Bid Price
Greater than 0.1	Remediate or Replace ⁽¹⁾

⁽¹⁾ Provide the Department in writing a method for repairing the observed cracking. Do not begin work until the method has been approved.

6.0 PAYMENT. The Department will measure the quantity in linear feet of pipe to inspect. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24814EC	Pipeline Inspection	Linear Foot
10065NS	Pipe Deflection Deduction	Dollars

KENTUCKY TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS TRAFFIC MANAGEMENT PLAN

County: Oldham Item No.: 5-234.10

Federal Project No.: STPR 5140-6

Project Description:

The proposed project is a break-out section of the KY 393 reconstruction and realignment in south-central Oldham County, approximately two miles west of LaGrange. The project begins on existing KY 393 at the I-71 Interchange, extends to a point just north of Buckner Crossings Access Road and includes a temporary roadway connection (Traffic Diversion "A") from Proposed KY 393 to Existing KY 393 just south of the CSXT Railroad. The KY 393 break-out section is intended to support a proposed Kroger development on KY 393 between I-71 and Commerce Parkway per the request of Oldham County Government.

Roadway Classification: Urban Rural
 Local Collector Arterial Interstate

ADT (current) 6,000 AM Peak Current 600 PM Peak Current 700 % Trucks 8.9%

Project Designation: Significant Other: _____

Traffic Control Plan Design:

Taper and Diversion Design Speeds 35

Minimum Lane Width 11' Minimum Shoulder Width 0'

Minimum Bridge Width N/A

Minimum Radius 982' Maximum Grade 10.0%

Minimum Taper Length 225' Minimum Intersection Level of Service D

Existing Traffic Queue Lengths N/A Projected Traffic Queue Lengths N/A

Comments:

Two lanes of traffic will be maintained on KY 393 at most times during construction. Lane closures and flagging will be used to accommodate traffic during adjacent construction. A signed detour route will be used for a weekend road closure on KY 393 to reconstruct pavement on the northern end of Traffic Diversion "A". The legal posted speed limit for KY 393 during construction shall be set at 45 mph within the limits of construction. Traffic Diversion "A" shall have warning signs and 35 mph advisory speed signs.

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
TRAFFIC MANAGEMENT PLAN**

Item No. 5-234.10

Discussion:

1) Public Information Plan	
a) Prepare with assistance from <input checked="" type="checkbox"/> KYTC or <input type="checkbox"/> _____	
b) Identify Trip Generators Referenced	f) Railroad Involvement Referenced
c) Identify Types of Road Users Referenced	g) Address Pedestrians, Bikes Mass Transit Referenced
d) Public Information Message Referenced	h) Address Timing, Frequency, Updates, Effectiveness of Plan Referenced
e) Public Information Strategies to be used Referenced	i) Police & Other Emergency Services Referenced

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
TRAFFIC MANAGEMENT PLAN**

Item No. 5-234.10

2) Temporary Traffic Control Plan (For Each Phase of Construction) Phase 1	
Exposure Control Measures	Positive Protection Measures
a) Is Road Closure Allowed Type: Referenced	a) Address Drop Off Protection Criteria Referenced
b) Detour Conditions Referenced	b) Temporary Barrier Requirements Referenced
c) Working Hour Restrictions Referenced	c) Evaluation of Existing Guardrail Conditions Referenced
d) Holiday or Special Event Work Restrictions Referenced	d) Address Temporary Drainage Referenced
e) Evaluation of Intersection LOS Referenced	Uniformed Law Enforcement Officers Referenced
f) Evaluation of Queue Lengths Referenced	Payment for Traffic Control*
g) Evaluation of User Costs and Incentives/Disincentives Referenced	a) Method of Project Bidding Referenced
h) Address Pedestrians, Bikes, Mass Transit Referenced	b) Special Notes Referenced
Work Vehicles and Equipment Referenced	*Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction
Comments:	
Reference KY 393 Section "A" Construction Phasing Plan, Phase 1 (Sheet 1 of 1) from the plan set that illustrates the concepts discussed in the following notes.	
<u>Phase 1:</u>	
Erect temporary signing and channelizing devices according to Standard Drawing "Shoulder Closure" along Existing KY 393, Ramp "C", Commerce Parkway, and the automobile dealership roadway west of Existing KY 393 near Commerce Parkway.	
Complete the clearing and grubbing for the KY 393 Section "A" project limits. Install cross drains and begin earthwork for the proposed KY 393 roadway on the east side of Existing KY 393 between the I-71 ramps and the limit imposed by the future CSXT Railroad Runaround.	

Prioritize grading and erosion control for the area from KY 393 Sta. 355+25 to the CSXT Railroad property line near Sta. 356+50 to enable early completion of that area and to facilitate the future CSXT Railroad Runaround construction by others. Initially, limit KY 393 construction operations between the I-71 ramps and the future railroad runaround to those that do not interfere with two-way traffic on Existing KY 393, Ramp "C", Commerce Parkway, and the automobile dealership roadway west of Existing KY 393 near Commerce Parkway. Begin earthwork on the west side of Existing KY 393 for Commerce Parkway (West) and Frontage Road "A". When it becomes necessary to haul across Existing KY 393 and Commerce Parkway, provide flaggers to protect the traveling public and to expedite the flow of traffic.

Complete the initial phase earthwork, rock roadbed placement, and initial paving along KY 393, Ramp "C", Frontage Road "A", and Commerce Parkway. The work is discussed on a road segment by road segment basis as follows:

- Ramp "C": Erect signing for "Shoulder Closure" per the Standard Drawings, and place channelizing devices along the right shoulder of the existing pavement for Ramp "C" and the east shoulder on Existing KY 393. Complete earthwork for this area. Extend the crossdrain pipe. Widen the existing rock roadbed for Ramp "C". Remove the existing paved shoulder within the construction limits. Pave Ramp "C" up to the existing edge of pavement of Existing KY 393.
- KY 393 from Ramp "C" to Commerce Parkway: Work only on the east side of Existing KY 393. Erect signing for "Shoulder Closure" per the Standard Drawings for the northbound direction of Existing KY 393. Continue placement of channelizing devices along the east shoulder of Existing KY 393. Maintain two-lane, two-way traffic on the Existing KY 393 pavement. Extend the crossdrain pipe on the inlet end. Complete earthwork for this area. Widen the rock roadbed. Back of Station 335+50, remove the existing paved shoulder and pave up to match the existing asphalt surface. From Sta. 336+50 to Sta. 340+50, pave the entire northbound side of KY 393. Pave up to, but not including, the final surface course.
- Commerce Parkway and Frontage Road "A" west of Existing KY 393: Erect signing for a southbound "Shoulder Closure" along Existing KY 393 per the Standard Drawings, and place channelizing devices along the west shoulder of Existing KY 393. Install the storm sewer pipe on Commerce Parkway. Place rock roadbed as it becomes available from the KY 393 mainline excavations. Provide flaggers to protect the traveling public and to expedite the flow of traffic when earthmoving equipment must cross Existing KY 393. Construct the curb and gutters, and pave Commerce Parkway (West) up to the existing west edge of pavement of Existing KY 393. Use "Lane Closure Two-Lane Highway" per the Standard Drawings when working in the immediate vicinity of Existing KY 393. Pave Frontage Road "A" up to the automobile dealership roadway pavement west of Existing KY 393. Apply permanent striping to Commerce Parkway (West) and Frontage Road "A".
- Commerce Parkway east of Existing KY 393: Maintain two-lane, two-way traffic on the Existing Commerce Parkway (East) pavement. Erect signing for "Shoulder Closure" in the westbound direction per the Standard Drawings, and place channelizing devices along the north side edge of pavement of Existing Commerce Parkway. Install the crossdrain pipe on the inlet end, and complete the earthwork on the north side of Commerce Parkway. Pave the entire north side up to the existing edge of pavement of Existing Commerce Parkway. Pave up to, but not including, the final surface course. Using a lane closure during daylight hours, overlay the existing westbound lane of Existing Commerce Parkway as needed to prevent water from ponding on the existing pavement. Construct a temporary pavement intersection apron between the edge of pavement of Existing KY 393 and the projected line of the two proposed northbound lanes of KY 393. Place Type III Barricades with "ROAD

CLOSED” signs on Commerce Parkway at Existing KY 393 to prevent unintended use of the new pavement.

- KY 393 from Commerce Parkway to the Buckner Crossings Access Road: Install storm sewer and crossdrain pipe to the limits permitted by Existing KY 393. Complete the earthwork, rock roadbed, and paving for at least the two rightmost lanes up to, but not including, the final surface course. Construct the barrier median along this roadway segment. Complete the shared use path along the east side of KY 393.
- Buckner Crossings Access Road: Install crossdrains and complete the earthwork and paving for this crossroad up to the existing east edge of pavement of Existing KY 393. Use “Lane Closure Two-Lane Highway” per the Standard Drawings when working in the immediate vicinity of Existing KY 393. Place Type III Barricades with “ROAD CLOSED” signs on the completed pavement of Buckner Crossings Access Road at Existing KY 393 to discourage unintended use of the new pavement.
- KY 393 north of Buckner Crossings Access Road: Complete the soil and rock excavation for the future KY 393 roadway to the limits shown in the plans. Install storm sewer to the limits shown. Complete rock roadbed installation and KY 393 paving to the limits shown in the plans. Pave up to, but not including, the final asphalt surface course within the specified limits of paving.

KENTUCKY TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS TRAFFIC MANAGEMENT PLAN

Item No. 5-234.10

2) Temporary Traffic Control Plan (For Each Phase of Construction) Phase 2	
Exposure Control Measures	Positive Protection Measures
a) Is Road Closure Allowed Type: Referenced	a) Address Drop Off Protection Criteria Referenced
b) Detour Conditions Referenced	b) Temporary Barrier Requirements Referenced
c) Working Hour Restrictions Referenced	c) Evaluation of Existing Guardrail Conditions Referenced
d) Holiday or Special Event Work Restrictions Referenced	d) Address Temporary Drainage Referenced
e) Evaluation of Intersection LOS Referenced	Uniformed Law Enforcement Officers Referenced
f) Evaluation of Queue Lengths Referenced	Payment for Traffic Control*
g) Evaluation of User Costs and Incentives/Disincentives Referenced	a) Method of Project Bidding Referenced
h) Address Pedestrians, Bikes, Mass Transit Referenced	b) Special Notes Referenced
Work Vehicles and Equipment Referenced	*Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction
Comments:	
Reference KY 393 Section "A" Construction Phasing Plan, Phase 2 (Sheet 1 of 1) from the plan set that illustrates the concepts discussed in the following notes. Also reference the KY 393 Detour Signing Plan.	
<u>Phase 2:</u>	
The primary goal in Phase 2 is to complete any gaps in the KY 393 roadway so that it can be opened to at least two lanes of traffic in the next phase. The sequence of work is again discussed for each project segment.	
<ul style="list-style-type: none"> • <u>Ramp "C"</u>: During daylight work sessions and using "Lane Closure Multi-Lane Highway Case I" as illustrated in the Standard Drawings, temporarily shift Ramp "C" traffic back and 	

forth as needed to complete the asphalt overlay. As paving is completed, apply permanent striping. Ramp "C" is now complete and ready for permanent operation.

- KY 393 from Ramp "C" to Commerce Parkway: Work only on the east side of Existing KY 393. Complete the gap in the mainline pavement at Existing Commerce Parkway. Complete KY 393 east side paving, minus the final surface course. Apply temporary striping for two-lane, two-direction operation on KY 393 in the next phase. Defer the lane striping that would conflict with Existing KY 393 striping until the traffic shift is complete in the next phase. Toward the end of this phase, remove a portion of the existing barrier median from Sta. 332+50 to Sta. 335+00, and pave the median crossover for the southbound lane crossover to be used in the next phase. Install signing, markings, temporary concrete barrier wall and crash cushion for Median Crossover Case II in the Standard Drawings to the extent that it does not interfere with traffic on Existing KY 393.
- Commerce Parkway and Frontage Road "A" west of Existing KY 393: Open Commerce Parkway (West) and Frontage Road "A" to traffic. Erect "ROAD CLOSED" signs mounted on Type III barricades on both ends of the former automobile dealership roadway west of Existing KY 393.
- Commerce Parkway east of Existing KY 393: Shift two-lane, two-way Commerce Parkway traffic to the two northernmost lanes completed in the previous phase. Provide three temporary lanes at the Existing KY 393 intersection to align with the permanent lanes on Commerce Parkway (West). Extend the crossdrain on the south end. Complete the grading and asphalt overlay paving on the southern half of Commerce Parkway and apply permanent striping.
- KY 393 from Commerce Parkway to Buckner Crossings Access Road: On the asphalt base course directly under the final surface course, apply temporary striping to the ultimate northbound lanes for temporary two-lane, two-direction operation in the next phase. Erect construction zone speed limit signing along Proposed KY 393 for use in the next phase.
- Traffic Diversion "A": During daylight work sessions and using "Lane Closure Two-Lane Highway" (as illustrated in the Standard Drawings) as needed on Existing KY 393, construct all portions of Traffic Diversion "A" adjacent to Existing KY 393 that do not encroach on the Existing KY 393 pavement. Complete a majority of the paving, and install guardrail.

Completion of the portion of Traffic Diversion "A" that overlaps the existing pavement of Existing KY 393 from Frontage Road "B" Sta. 152+72 to Traffic Diversion "A" Sta. 955+65 will require complete closure of Existing KY 393 for a weekend construction session to remove the existing pavement, lower the grade, and pave the new Traffic Diversion "A" pavement. Ensure that all other segments of Proposed KY 393 are ready to accept two-lane, two-direction traffic as shown in Phase 3 prior to closing Existing KY 393 for undercutting the existing pavement. Coordinate the timing of the planned road closure with the Engineer, Oldham County Schools, and Oldham County emergency services agencies. Two weeks prior to the agreed upon closure weekend, post advance warning signs on both approaches to the closure area at the following locations:

- Existing KY 393 northbound just north of the Commerce Parkway intersection
- Existing KY 393 southbound just south of the KY 146 intersection

The advance warning signs shall state "KY 393 TO BE CLOSED AHEAD FROM 7:00 P.M. ON FRIDAY _____(add date)_____ to 5:00 A.M. ON MONDAY _____(add date)_____ FOR CONSTRUCTION". For the road closure on Existing KY 393, KY 393 traffic will be detoured via I-71 and KY 146 to use the I-71 at KY 146 Interchange (I-71 Exit 17). Prior to the road closure, erect detour signing according to the KY 393 Detour Signing Plan in the plan set. Cover the detour signs until needed. At the time of road closure, the detour signs shall be uncovered. A Type III Barricade with "ROAD CLOSED - LOCAL TRAFFIC ONLY" sign shall

be placed on Existing KY 393 just north of the Commerce Parkway intersection to allow business patrons and property owners access to the properties along the west side of Existing KY 393. Two Type III Barricades with "ROAD CLOSED" signs shall be placed on Existing KY 393 immediately south of the KY 146 intersection and in advance of the at-grade railroad crossing to be viewed by motorists traveling eastbound and westbound on KY 146.

During the roadway closure, remove the existing pavement, grade to the lowered profile grade, pave the gap in the Traffic Diversion "A" pavement, apply temporary striping for two-lane, two-direction operation in Phase 3, and erect signing along Traffic Diversion "A", all within the specified closure period.

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
TRAFFIC MANAGEMENT PLAN**

Item No. 5-234.10

2) Temporary Traffic Control Plan (For Each Phase of Construction) Phase 3	
Exposure Control Measures	Positive Protection Measures
a) Is Road Closure Allowed Type: Referenced	a) Address Drop Off Protection Criteria Referenced
b) Detour Conditions Referenced	b) Temporary Barrier Requirements Referenced
c) Working Hour Restrictions Referenced	c) Evaluation of Existing Guardrail Conditions Referenced
d) Holiday or Special Event Work Restrictions Referenced	d) Address Temporary Drainage Referenced
e) Evaluation of Intersection LOS Referenced	Uniformed Law Enforcement Officers Referenced
f) Evaluation of Queue Lengths Referenced	Payment for Traffic Control*
g) Evaluation of User Costs and Incentives/Disincentives Referenced	a) Method of Project Bidding Referenced
h) Address Pedestrians, Bikes, Mass Transit Referenced	b) Special Notes Referenced
Work Vehicles and Equipment Referenced	*Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction
Comments:	
Reference KY 393 Section "A" Construction Phasing Plan, Phase 3 (Sheet 1 of 1) from the plan set that illustrates the concepts discussed in the following notes.	
<u>Phase 3:</u>	
Shift temporary two-lane, two-way KY 393 traffic to the newly completed Traffic Diversion "A" and the completed KY 393 pavement prepared in the previous phase. Remove existing striping that conflicts with the traffic pattern at the connections with the existing pavement, and complete the temporary striping in those locations.	
<ul style="list-style-type: none"> • <u>Ramp "C"</u>: Completed and open to traffic. • <u>KY 393 from Ramp "C" to Commerce Parkway</u>: Shift northbound traffic to the eastern 	

ultimate northbound lane. Shift southbound traffic to the inner ultimate northbound lane north of KY 393 Station 335+50. South of that point, complete the installation of signing, markings, temporary concrete barrier wall and crash cushion for Median Crossover Case II in the Standard Drawings. Direct southbound traffic through the crossover in the existing barrier median to meet the existing southbound lane at the Ramp "D" entry. Cordon off the completed northbound left-turn lane to Commerce Parkway (West) using channelization devices. The right-turn lane to Commerce Parkway (East) is in use. Remove Existing KY 393 south of Commerce Parkway from service. Place "ROAD CLOSED" signs mounted on Type III Barricades on Existing KY 393 on the south side of the Commerce Parkway intersection. Proceed with construction of the median and southbound lanes up to and including the final surface course, and apply permanent striping for those areas that lie outside of the temporary traveled way.

- Commerce Parkway and Frontage Road "A" west of Existing KY 393: Completed and open to traffic.
- Commerce Parkway East of Existing KY 393: Completed and open to traffic.
- KY 393 from Commerce Parkway to Buckner Crossings Access Road: Shift KY 393 traffic from Existing KY 393 to the completed portion of Proposed KY 393. Temporary two-lane, two-way traffic operates in the ultimate northbound lanes of KY 393. Complete construction of the southern section of Frontage Road "B" from the southern cul-de-sac to Buckner Crossings Access Road. Remove the Existing KY 393 pavement in that area, and complete the KY 393 southbound-side construction that fills over the old roadbed. Proceed with completion of the southbound lanes of KY 393 within this roadway segment, including the final asphalt surface course and permanent striping.
- Frontage Road "B": Once KY 393 traffic has been shifted to Traffic Diversion "A" and the northbound side of the new KY 393 roadway, close Existing KY 393 to traffic at the southern and northern ends of Frontage Road "B". Install temporary concrete barrier wall across the northern end of Frontage Road "B". Complete the construction of the cul-de-sac at the southern end of Frontage Road "B" and the western "bulb-out" of Frontage Road "B" at the Buckner Crossings Access Road intersection up to the final surface course and permanent striping. If not completed previously, install the storm sewer outfall for the CSXT Railroad along the west side of Frontage Road "B". Erect signing for "Shoulder Closure" in the Standard Drawings when installing storm sewer adjacent to southbound traffic on Traffic Diversion "A". Access to some parcels along Frontage Road "B" will now be via the Buckner Crossings Access Road intersection.
- Traffic Diversion "A": Completed and open to traffic.

**KENTUCKY TRANSPORTATION CABINET
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2) Temporary Traffic Control Plan (For Each Phase of Construction) Phase 4	
Exposure Control Measures	Positive Protection Measures
a) Is Road Closure Allowed Type: Referenced	a) Address Drop Off Protection Criteria Referenced
b) Detour Conditions Referenced	b) Temporary Barrier Requirements Referenced
c) Working Hour Restrictions Referenced	c) Evaluation of Existing Guardrail Conditions Referenced
d) Holiday or Special Event Work Restrictions Referenced	d) Address Temporary Drainage Referenced
e) Evaluation of Intersection LOS Referenced	Uniformed Law Enforcement Officers Referenced
f) Evaluation of Queue Lengths Referenced	Payment for Traffic Control*
g) Evaluation of User Costs and Incentives/Disincentives Referenced	a) Method of Project Bidding Referenced
h) Address Pedestrians, Bikes, Mass Transit Referenced	b) Special Notes Referenced
Work Vehicles and Equipment Referenced	*Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction
Comments:	
<p><u>Phase 4:</u></p> <ul style="list-style-type: none"> <u>KY 393 from I-71 to Buckner Crossings Access Road:</u> Apply the final surface course and permanent striping to any unfinished segments of the KY 393 southbound lanes, and shift southbound KY 393 traffic to the ultimate southbound lanes of KY 393 as the work is completed. Near the I-71 ramp terminal, construct the gap in the barrier median that was used for the temporary southbound crossover. Stage the barrier median construction from the inner northbound lane within a "Lane Closure Multi-Lane Highway Case I" as illustrated in the Standard Drawings. Apply the final surface course and permanent striping to the KY 393 inside northbound lane to obliterate the temporary striping used in Phase 3. Shift KY 393 northbound traffic to the completed inside lane, and complete the paving and permanent striping for the outer northbound lane. Open both northbound 	

lanes to traffic as the work is completed.

- KY 393 from Buckner Crossings Access Road to CSXT Railroad: As the KY 393 southbound side lanes are completed and available for permanent traffic, remove the interim striping on Traffic Diversion "A" and apply the ultimate (permanent) striping configuration shown in the striping plans. Shift southbound traffic from Traffic Diversion "A" to southbound KY 393.

KENTUCKY TRANSPORTATION CABINET
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APPROVAL:

Carl Sporken 9/23/2015
Project Manager Date

Thomas J. Wright 9-23-15
Project Delivery and Preservation Manager Date

Mohamad Abdel 9-23-15
Engineering Support Manager Date

FHWA Representative Date

Revisions to the TMP require review/approval by the signatories.

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
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Item No. 5-234.10

2) **Temporary Traffic Control Plan – Phase 1
(Supplement to Sheet 3)**

Exposure Control Measures:

- a) **Is Road Closure Allowed?** Flaggers will be provided to protect the traveling public and to expedite traffic flow when earthmoving equipment must cross Existing KY 393. Alternating lane closures using flaggers are to be used when working in the immediate vicinity of Existing KY 393 during Phase 1. Alternating lane closures using flaggers are to be used on the eastern segment of Commerce Parkway during the overlay of existing pavement. Roadways are to be returned to two-lane operation at the end of each workday. Shoulder closures will be used along the following roadways during Phase 1:
- Right Shoulder of Ramp “C”
 - Northbound direction of Existing KY 393 from Ramp “C” to Commerce Parkway
 - Southbound direction of Existing KY 393 north of Commerce Parkway
 - Westbound direction of Commerce Parkway east of Existing KY 393
- b) **Detour Conditions:** No detour routes are utilized during Phase I.
- c) **Working Hour Restrictions:** Work requiring reduction of traffic to one alternating lane shall not be performed from 6:00 a.m. to 9:00 a.m. or from 3:00 p.m. to 6:00 p.m. unless approved by the Engineer.
- d) **Holiday or Special Event Restrictions:** No holiday or special event restrictions are applied to the KY 393 project.
- e) **Evaluation of Intersection LOS:** None required. No reductions in number of lanes at intersections are anticipated.
- f) **Evaluation of Queue Lengths:** None required. The Department’s construction manager can direct removal of any lane closure that creates excessive queue lengths.
- g) **Evaluation of User Costs and Incentives/Disincentives:** There are no incentives/disincentives associated with Phase 1.

- h) Address Pedestrians, Bikes, and Mass Transit:** There are currently no pedestrian facilities along KY 393 that would be affected by the proposed construction. The existing shared use path on the north side of Commerce Parkway (East) will be removed and reconstructed further north during this phase. Shared use path users will need to utilize the Commerce Parkway pavement during this phase construction or use alternative routes to avoid the construction. The existing Transit Authority of River City (TARC) park and ride lot on the north side of Commerce Parkway will be removed by the proposed construction. The park and ride lot on the south side of Commerce Parkway will remain in place. Replacement park and ride parking spaces are expected to be provided in the proposed Kroger development parking lot or in other nearby parking lots.

Work Vehicles and Equipment: See the Standard Specifications for Road and Bridge Construction, current edition.

Positive Protection Measures:

- a) Address Drop Off Protection Criteria:** None required in Phase I.
- b) Temporary Barrier Requirements:** Channelizing devices will be utilized. Type III Barricades with "ROAD CLOSED" signs will be erected on Commerce Parkway and Buckner Crossings Access Road at Existing KY 393 to discourage unintended use of the new pavement. See Maintenance of Traffic Plan.
- c) Evaluation of Existing Guardrail Conditions:** There is no existing guardrail along the active construction area in Phase I.
- d) Address Temporary Drainage:** Temporary drainage, if required, is to be as noted on the plans.

Uniform Law Enforcement Officers: None required.

Payment for Traffic Control: Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, unless otherwise noted.

- a) Method of Project Bidding:** Open bidding after notice to Contractors.
- b) Special Notes:** Liquidated Damages (see Proposal).

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
TRAFFIC MANAGEMENT PLAN

Item No. 5-234.10

2) **Temporary Traffic Control Plan – Phase 2
(Supplement to Sheet 6)**

Exposure Control Measures:

- a) **Is Road Closure Allowed?** Yes, but only for one weekend to enable reconstruction of Existing KY 393 in the northern portion of Traffic Diversion “A”. During the road closure, a detour for KY 393 traffic will be implemented using the KY 393 Detour Signing Plan provided in the plan set.
- b) **Detour Conditions:** KY 393 traffic will be detoured to the I-71 at KY 146 interchange (Exit 17) according to the KY 393 Detour Signing Plan provided in the plan set.
- c) **Working Hour Restrictions:** Work requiring reduction of traffic to one alternating lane shall not be performed from 6:00 a.m. to 9:00 a.m. or from 3:00 p.m. to 6:00 p.m. unless approved by the Engineer.
- d) **Holiday or Special Event Restrictions:** No holiday or special event restrictions are applied to the KY 393 project.
- e) **Evaluation of Intersection LOS:** None required. No reductions in number of lanes at intersections are anticipated.
- f) **Evaluation of Queue Lengths:** None required. The Department’s construction manager can direct removal of any lane closure that creates excessive queue lengths.
- g) **Evaluation of User Costs and Incentives/Disincentives:**
Liquidated damages will be applied if the weekend closure period established for the KY 393 reconstruction in the northern portion of Traffic Diversion “A” is exceeded.
- h) **Address Pedestrians, Bikes, and Mass Transit:** There are currently no pedestrian facilities along Existing KY 393 that would be affected by the proposed construction. The existing shared use path on the north side of Commerce Parkway (East) will have been reconstructed by this phase and reopened to users along with a new segment of shared use path along KY 393 north of Commerce Parkway. The Transit Authority of River City (TARC) park and ride lot on the south side of Commerce Parkway and transit stops will continue to operate.

Work Vehicles and Equipment: See the Standard Specifications for Road and Bridge Construction, current edition.

Positive Protection Measures:

- a) **Address Drop Off Protection Criteria:** Pavement edges that traffic is not expected to cross, except accidentally, should be treated as follows:
- Less than 2 inches – No protection required. Warning signs should be placed in advance and throughout the drop-off area.
 - 2 inches to 4 inches – Place plastic drums, vertical panels, or barricades every 50 feet. Cones may be used in place of plastic drums, panels, and barricades during daylight hours. Spacing for tapers should be in accordance with the Manual on Uniform Traffic Control Devices.
 - Greater than 4 inches – Positive separation or wedge with a 3:1 or flatter slope. If there is 8 feet or more distance between the edge of pavement and drop-off, drums, panels or barricades may be used. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations. Payment will be allowed for the DGA or crushed stone base used for wedging.
 - For temporary conditions, drop-offs greater than 4 inches may be protected with plastic drums, vertical panels, or barricades for short distances during daylight hours while work is being done in the drop-off area.
- b) **Temporary Barrier Requirements:** Channelizing devices will be utilized. Type III Barricades with “ROAD CLOSED” signs will be erected at each end of the former automobile dealership roadway west of Existing KY 39 during Phase 2. See Maintenance of Traffic Plan.
- c) **Evaluation of Existing Guardrail Conditions:** There is no existing guardrail along the active construction area in Phase 2.
- d) **Address Temporary Drainage:** Temporary drainage, if required, is to be as noted on the plans.

Uniform Law Enforcement Officers: None required.

Payment for Traffic Control: Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, unless otherwise noted.

- a) **Method of Project Bidding:** Open bidding after notice to Contractors.

b) Special Notes: Liquidated Damages (see Proposal).

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
TRAFFIC MANAGEMENT PLAN

Item No. 5-234.10

2) **Temporary Traffic Control Plan – Phase 3
(Supplement to Sheet 8)**

Exposure Control Measures:

- a) **Is Road Closure Allowed?** Shoulder closures will be used to install storm sewer adjacent to southbound traffic on Traffic Diversion “A” during Phase 3.
- b) **Detour Conditions:** No detour routes are utilized during Phase 3.
- c) **Working Hour Restrictions:** Work requiring reduction of traffic to one alternating lane shall not be performed from 6:00 a.m. to 9:00 a.m. or from 3:00 p.m. to 6:00 p.m. unless approved by the Engineer.
- d) **Holiday or Special Event Restrictions:** No holiday or special event restrictions are applied to the KY 393 project.
- e) **Evaluation of Intersection LOS:** None required. No reductions in number of lanes at intersections are anticipated.
- f) **Evaluation of Queue Lengths:** None required. The Department’s construction manager can direct removal of any lane closure that creates excessive queue lengths.
- g) **Evaluation of User Costs and Incentives/Disincentives:** No incentives/disincentives are anticipated for Phase 3.
- h) **Address Pedestrians, Bikes, and Mass Transit:** There are currently no pedestrian facilities along Existing KY 393 that would be affected by the proposed construction. The existing shared use path on the north side of Commerce Parkway (East) will have been reconstructed by this phase and reopened to users along with a new segment of shared use path along KY 393 north of Commerce Parkway. The Transit Authority of River City (TARC) park and ride lot on the south side of Commerce Parkway and transit stops will continue to operate.

Work Vehicles and Equipment: See the Standard Specifications for Road and Bridge Construction, current edition.

Positive Protection Measures:

a) Address Drop Off Protection Criteria: Pavement edges that traffic is not expected to cross, except accidentally, should be treated as follows:

- Less than 2 inches – No protection required. Warning signs should be placed in advance and throughout the drop-off area.
- 2 inches to 4 inches – Place plastic drums, vertical panels, or barricades every 50 feet. Cones may be used in place of plastic drums, panels, and barricades during daylight hours. Spacing for tapers should be in accordance with the Manual on Uniform Traffic Control Devices.
- Greater than 4 inches – Positive separation or wedge with a 3:1 or flatter slope. If there is 8 feet or more distance between the edge of pavement and drop-off, drums, panels or barricades may be used. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations. Payment will be allowed for the DGA or crushed stone base used for wedging.
- For temporary conditions, drop-offs greater than 4 inches may be protected with plastic drums, vertical panels, or barricades for short distances during daylight hours while work is being done in the drop-off area.

b) Temporary Barrier Requirements: Temporary concrete barrier wall segments and temporary crash cushions will be installed along KY 393 north of Ramp C in accordance with Median Crossover Case II in the Standard Drawings. Type III Barricades with “ROAD CLOSED” signs will be erected on Existing KY 393 on the south side of the Commerce Parkway intersection. Temporary concrete barrier walls will be installed across the north end of Frontage Road “B” and on KY 393 northbound just north of the Buckner Crossings Access Road intersection. Channelizing devices will be utilized. See Maintenance of Traffic Plan.

c) Evaluation of Existing Guardrail Conditions: There is no existing guardrail along the active construction area in Phase 3.

d) Address Temporary Drainage: Temporary drainage, if required, is to be as noted on the plans.

Uniform Law Enforcement Officers: None required.

Payment for Traffic Control: Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, unless otherwise noted.

- a) **Method of Project Bidding:** Open bidding after notice to Contractors.

- b) **Special Notes:** Liquidated Damages (see Proposal).

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
TRAFFIC MANAGEMENT PLAN

Item No. 5-234.10

2) **Temporary Traffic Control Plan – Phase 4
(Supplement to Sheet 10)**

Exposure Control Measures:

- a) **Is Road Closure Allowed?** Construction of the KY 393 barrier median will be staged within a Multi-Lane Highway Lane Closure during Phase 4.
- b) **Detour Conditions:** No detour routes are utilized during Phase 4.
- c) **Working Hour Restrictions:** Work requiring reduction of traffic to one alternating lane shall not be performed from 6:00 a.m. to 9:00 a.m. or from 3:00 p.m. to 6:00 p.m. unless approved by the Engineer.
- d) **Holiday or Special Event Restrictions:** No holiday or special event restrictions are applied to the KY 393 project.
- e) **Evaluation of Intersection LOS:** None required. No reductions in number of lanes at intersections are anticipated.
- f) **Evaluation of Queue Lengths:** None required. The Department's construction manager can direct removal of any lane closure that creates excessive queue lengths.
- g) **Evaluation of User Costs and Incentives/Disincentives:** No incentives/disincentives anticipated for Phase 4.
- h) **Address Pedestrians, Bikes, and Mass Transit:** There are currently no pedestrian facilities along Existing KY 393 that would be affected by the proposed construction. The existing shared use path on the north side of Commerce Parkway (East) will have been reconstructed by this phase and reopened to users along with a new segment of shared use path along KY 393 north of Commerce Parkway. The Transit Authority of River City (TARC) park and ride lot on the south side of Commerce Parkway and transit stops will continue to operate.

Work Vehicles and Equipment: See the Standard Specifications for Road and Bridge Construction, current edition.

Positive Protection Measures:

- a) Address Drop Off Protection Criteria:** Pavement edges that traffic is not expected to cross, except accidentally, should be treated as follows:
- Less than 2 inches – No protection required. Warning signs should be placed in advance and throughout the drop-off area.
 - 2 inches to 4 inches – Place plastic drums, vertical panels, or barricades every 50 feet. Cones may be used in place of plastic drums, panels, and barricades during daylight hours. Spacing for tapers should be in accordance with the Manual on Uniform Traffic Control Devices.
 - Greater than 4 inches – Positive separation or wedge with a 3:1 or flatter slope. If there is 8 feet or more distance between the edge of pavement and drop-off, drums, panels or barricades may be used. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations. Payment will be allowed for the DGA or crushed stone base used for wedging.
 - For temporary conditions, drop-offs greater than 4 inches may be protected with plastic drums, vertical panels, or barricades for short distances during daylight hours while work is being done in the drop-off area.
- b) Temporary Barrier Requirements:** Channelizing devices will be utilized. See Maintenance of Traffic Plan.
- c) Evaluation of Existing Guardrail Conditions:** There is no existing guardrail along the active construction area in Phase 4.
- d) Address Temporary Drainage:** Temporary drainage, if required, is to be as noted on the plans.

Uniform Law Enforcement Officers: None required.

Payment for Traffic Control: Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, unless otherwise noted.

- a) Method of Project Bidding:** Open bidding after notice to Contractors.
- b) Special Notes:** Liquidated Damages (see Proposal).

**KY 393 RECONSTRUCTION
FROM I-71 TO NORTH OF KY 146
OLDHAM COUNTY
PUBLIC INFORMATION PLAN
ITEM# 5-234.10**

The primary goal of the Public Information Plan (PIP) is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) which includes lane road closures. The KYTC District 5 Public Information Officer (PIO) will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans.

LOCAL STAKEHOLDERS

- Elected Officials
 - State Senator Ernie Harris – (502) 241-8307; ernie.harris@lrc.ky.gov
 - State Representative David Osborne – (502) 228-3201; david.osborne@lrc.ky.gov
 - Oldham County Judge/Executive David Voegele (502) 222-9357; dvoegele@oldhamcounty.net
 - Oldham County Magistrate Wayne Theiss – (502) 609-0576; wtheiss@oldhamcountky.gov
 - Oldham County Magistrate Kevin Eldridge – (502) 222-6640; kevin@keldridge.com

- Local Agencies
 - Captain Fred Williams, Jr., Kentucky State Police – (502) 532-6363; fred.williams@ky.gov
 - James Stewart, Director of Transportation Oldham County Schools – (502) 241-3500; james.stewart@oldham.kyschools.us
 - Chief Greg Smith, Oldham County Police – (502) 222-1300; gsmith@oldhamcounty.net
 - Chief Jim Sitzler, LaGrange Fire Department – (502) 222-1143; jsitzler@lfrd.org
 - Steve Sparrow, Oldham County Sheriff – (502) 222-9501; info@oldhamcountysheriff.com

- Utility Companies
 - Local utility companies are kept apprised of this project at the monthly utility coordination meetings hosted by District 5

- Neighborhoods and their Mayors

TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS

Information will be distributed electronically to trucking firms via Rick Taylor at the Department of Vehicle Regulation (502-564-4540; rick.taylor@ky.gov). Information will also be posted on the 511 website (www.511.ky.gov) and on the 511 telephone information system.

PRESENTATIONS

A project description including anticipated schedule will be provided to the media, stakeholders and other emergency service agencies via e-mail prior to construction. Information will be provided to these groups via traffic advisories, press releases, the District 5 website and the weekly District 5 Road Show of Construction and Maintenance Activities.

MEDIA RELATIONS

The District PIO will prepare an initial news release regarding the contract award for the project. The PIO will conduct interviews with the media throughout the project duration to keep the public informed of construction progress. Traffic advisories will be submitted to the media when a change in the MOT occurs. The contractor must provide to the PIO via the Section Engineer notification of any change in the MOT at least five (5) days prior to the change.

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R40	5-234-10	OLDHAM

MAINTENANCE OF TRAFFIC NOTES AND CONSTRUCTION PHASING

TRAFFIC CONTROL GENERAL NOTES

- Traffic shall be maintained in accordance with the Manual on Uniform Traffic Control Devices, the Standard Specifications for Road and Bridge Construction, and the Standard Drawings, current editions.
- Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid for at the lump sum bid price to "Maintain and Control Traffic," as set forth in the current Standard Specifications for Road and Bridge Construction unless otherwise provided for in these notes.
- The Contractor shall maintain a minimum of one 11-foot lane in each direction on KY 393 and Commerce Parkway unless otherwise noted.
- Work requiring reduction of traffic to one lane (i.e., water blasting / striping for phasing transitions, paving, etc.) shall not be performed from 6:00 a.m. to 9:00 a.m. or from 3:00 p.m. to 6:00 p.m., unless approved by the Engineer.
- The legal posted speed limit for KY 393 during construction shall be set at 45 m.p.h. within the limits of construction. Traffic Diversion 'A' shall have warning signs and 35 mph advisory speed signs in accordance with signing plans. Installation and maintenance of speed limit signs is the responsibility of the Contractor.
- Provide one Portable Changeable Message Sign for use on each of the four approaches to the project and two additional signs to be used at the discretion of the Engineer. Place the Portable Changeable Message Signs at the locations directed by the Engineer.

CONSTRUCTION PHASING

Note: Construction Phasing Plan sheets that illustrate the Phases 1 through 3 are provided in the following tables or appendices as provided between Phases 2 and 3 of the Construction Phasing Plans.

Phase 1:

Erect temporary signing and channelizing devices according to Standard Drawing "Shoulder Closure" along Existing KY 393, Ramp 'C' and Frontage Road 'A' west of Existing KY 393 near Commerce Parkway. Complete the clearing and grubbing for the KY 393 Section 'A' project limits. Install cross drains and begin earthwork for proposed 171' roadway on the limit line south of the existing CSXT Railroad Runaround. Prioritize grading and erosion control for the area from KY 393 Sta. 355+25 to the CSXT Railroad property line near Sta. 356+50 to enable early completion of that area and to facilitate the future CSXT Railroad Runaround operations between the I-71 ramps and the future railroad runaround to those that do not interfere with two-way traffic on Existing KY 393, Ramp 'C', Commerce Parkway, and the automobile dealership roadway west of Existing KY 393 near Commerce Parkway. When it becomes necessary to haul across Existing KY 393 and Commerce Parkway, provide flaggers to protect the traveling public and to expedite the flow of traffic.

Complete the initial phase earthwork, rock roadbed placement, and initial paving along KY 393, Ramp 'C', Frontage Road 'A', and Commerce Parkway. The work is discussed on a road segment by road segment basis as follows:

- Ramp 'C': Erect signing for 'Shoulder Closure' per the Standard Drawings, and place channelizing devices along the right shoulder of the existing pavement for Ramp 'C' and the east side of the existing pavement for Ramp 'C'. When it becomes necessary to haul across Existing KY 393, Ramp 'C', remove the existing paved shoulder within the existing construction limits. Pave Ramp 'C' up to the existing edge of pavement of Existing KY 393.

Phase 1 (cont.):

- KY 393 from Ramp 'C' to Commerce Parkway: Work only on the east side of Existing KY 393. Erect signing for "Shoulder Closure" per the Standard Drawings for the northbound direction of Existing KY 393. Continue placement of channelizing devices along the east shoulder of Existing KY 393. Maintain two-lane, two-direction operation on KY 393. Complete earthwork for the cross-drain pipe on the inlet end. Complete earthwork for this area. Widen the rock roadbed. Back of Station 335+50, remove the existing paved shoulder and pave up to match the existing asphalt surface. From Sta. 336+50 to Sta. 340+50, pave the asphalt surface on the east side of KY 393. Pave up to, but not including, the final surface course.
- Commerce Parkway and Frontage Road 'A' west of Existing KY 393: Erect signing for a southbound "Shoulder Closure" along Existing KY 393 per the Standard Drawings, and place phasing devices along the west shoulder of Existing KY 393. Install the sewer pipe on Commerce Parkway. Place rock roadbed as it becomes available from the KY 393 machine excavations. Provide flaggers to protect the traveling public and to expedite the flow of traffic when earthmoving equipment must cross Existing KY 393. Pave up to the existing west edge of pavement of Existing KY 393. Use "Lane Closure Two-Lane Highway" per the Standard Drawings when working in the immediate vicinity of Existing KY 393. Pave Frontage Road 'A' up to the automobile dealership roadway pavement west of Existing KY 393. Apply permanent striping to Commerce Parkway (West) and Frontage Road 'A'.
- Commerce Parkway east of Existing KY 393: Maintain two-lane, two-way traffic on Existing KY 393. Erect signing for "Shoulder Closure" in the westbound direction along Existing KY 393. Complete the clearing and grubbing for the north side edge of pavement of Existing Commerce Parkway. Install the cross-drain pipe on the inlet end, and complete the earthwork on the north side of Commerce Parkway. Pave the entire north side up to the existing edge of pavement of Existing Commerce Parkway, using a lane closure during daylight hours. Overlay the existing westbound lane of Existing Commerce Parkway as needed to prevent water from ponding on the existing pavement. Construct a temporary pavement intersection apron between the edge of pavement of Existing KY 393 and the projected line of the Barricades with "ROAD CLOSED" signs on Commerce Parkway at Existing KY 393 to prevent unintended use of the new pavement.
- KY 393 from Commerce Parkway to the Buckner Crossings Access: Erect signing for "Shoulder Closure" along Existing KY 393, Ramp 'C', and Frontage Road 'A' west of Existing KY 393 near Commerce Parkway. Complete the earthwork, rock roadbed, and paving for at least the two rightmost lanes up to, but not including, the final surface course. Construct the shared barrier median along this roadway segment. Complete the shared use path along the east side of KY 393.
- Buckner Crossings Access Road: Install cross-drains and complete the earthwork and paving for this crossroad up to the existing east edge of pavement of Existing KY 393. Use "Lane Closure Two-Lane Highway" per the Standard Drawings when working in the immediate vicinity of Existing KY 393. Place "ROAD CLOSED" signs with "ROAD CLOSED" signs on the completed pavement of Buckner Crossings Access Road at Existing KY 393 to discourage unintended use of the new pavement.
- KY 393 north of Buckner Crossings Access Road: Complete the soil and rock excavation for the future KY 393 roadway to the limits shown in the plans. Install storm sewer to the limits shown. Complete rock roadbed installation and KY 393 paving to the limits shown in the plans. Pave up to, but not including, the final asphalt surface course within the specified limits of paving.

Phase 2:

The primary goal in Phase 2 is to complete any gaps in the KY 393 pavement and paving. The sequence of work is again discussed for each project segment.

- Ramp 'C': During daylight work sessions and using "Lane Closure Multi-Lane Highway Case I" as illustrated in the Standard Drawings, temporarily shift Ramp 'C' traffic back and forth as needed to complete paving and paving operations. When paving is complete, apply permanent striping. Ramp 'C' is now complete and ready for permanent operation.

Phase 2 (cont.):

- KY 393 from Ramp 'C' to Commerce Parkway: Work only on the east side of Existing KY 393. Complete the gap in the mainline pavement at Existing Commerce Parkway. Complete KY 393 east side paving, minus the final surface course. Apply temporary striping for two-lane, two-direction operation on KY 393. Complete the next phase. Deflect the lane traffic shift is complete in the next phase. Toward the end of this phase, remove a portion of the existing barrier median from Sta. 332+50 to Sta. 335+00, and pave the median crossover for the southbound lane crossover to be used in the next phase. Install signing, markings, and delineation in the Standard Drawings to the extent that it does not interfere with traffic on Existing KY 393.
- Commerce Parkway and Frontage Road 'A' west of Existing KY 393: Open earthwork west and north of Frontage Road 'A' to traffic. Erect "ROAD CLOSED" signs along the east side of Existing KY 393. Complete the automobile dealership roadway west of Existing KY 393.
- Commerce Parkway east of Existing KY 393: Shift two-lane, two-way Commerce Parkway traffic to the two northernmost lanes, completed in the previous phase. Complete the earthwork and paving for the intersection to align with the permanent lanes on Commerce Parkway (West). Extend the cross-drain on the south end. Complete the grading and asphalt overlay paving on the southern half of Commerce Parkway and apply permanent striping.
- KY 393 from Commerce Parkway to Buckner Crossings Access: On the asphalt base course directly under the final surface course, apply temporary striping to the ultimate northbound lanes for temporary two-lane, two-direction operation in the next phase. Erect construction zone speed limit signing along Proposed KY 393 for use in the next phase.
- Traffic Diversion 'A': During daylight work sessions and using "Lane Closure Two-Lane Highway" as illustrated in the Standard Drawings as needed on Existing KY 393, construct all portions of Traffic Diversion 'A' between the intersection of Existing KY 393 and the intersection of Existing KY 393 pavement. Complete a majority of the paving, and install guardrail. Completion of the portion of Traffic Diversion 'A' that overlaps the existing pavement of Existing KY 393 from Frontage Road 'B' Sta. 152+72 to Existing KY 393 Sta. 355+65 will require complete closure of Existing KY 393. Complete the paving and grading of the existing pavement, lower the grade, and pave the new Traffic Diversion 'A' pavement. Ensure that all other segments of Proposed KY 393 are ready to accept two-lane, two-direction traffic as shown in Phase 3 prior to closing Existing KY 393 for undercutting the existing with the Traffic Diversion 'A' pavement. Complete the earthwork and paving for the Engineer, Oldham County Schools, and Oldham County emergency services agencies. Two weeks prior to the agreed upon closure weekend, post advance warning signs on both approaches to the closure area at the following locations:
 - Existing KY 393 northbound just north of the Commerce Parkway intersection
 - Existing KY 393 southbound just south of the KY 146 intersection

The advance warning signs shall state "KY 393 TO BE CLOSED AHEAD FROM 7:00 P.M. TO 5:00 A.M. ON MONDAY, 11/15/2011. FOR THE ROAD CLOSURE ON EXISTING KY 393, KY 393 TRAFFIC WILL BE DETOURED VIA I-71 AND KY 146 TO USE THE I-71 AT KY 146 INTERCHANGE (I-71 Exit 17). Prior to the road closure, erect detour signing according to the KY 393 Detour Signing Plan in the plan set. Detour signs shall be uncovered. Type III Barricade with 9000 Closed Signs shall be uncovered. Type III Barricade with 9000 Closed LOCAL TRAFFIC ONLY sign shall be placed on Existing KY 393 just north of the Commerce Parkway intersection to allow business patrons and property owners access to the properties along the west side of Existing KY 393. Existing Type III Barricades with 9000 Closed Signs shall be uncovered. Existing KY 393 pavement from KY 146 intersection and in advance of the at-grade railroad crossing to be viewed by motorists traveling eastbound and westbound on KY 146.

During the roadway closure, remove the existing pavement, grade to the existing grade, and place temporary striping for two-lane, two-direction operation in Phase 3, and erect signing along Traffic Diversion 'A', all within the specified closure period.

Contrary to Section 108.09 of the Standard Specifications for Road and Bridge Construction (2012 Edition), liquidated damages in the amount of \$500 shall be charged for the first hour or portion of an hour that the Existing KY 393 roadway remains closed for longer than the specified closure period (5 a.m. on Monday). In addition, \$1,000 shall be charged for each additional hour or portion of an hour that the roadway remains closed to traffic.

MAINTENANCE OF TRAFFIC NOTES
AND CONSTRUCTION PHASING
(SHEET 1 OF 2)

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MAINTENANCE OF TRAFFIC NOTES AND CONSTRUCTION PHASING

MAINTENANCE OF TRAFFIC NOTES
AND
CONSTRUCTION PHASING
(SHEET 2 OF 2)

Phase 3:

- Shift temporary two-lane, two-way KY 393 traffic to the newly completed KY 393 Diversion 'A' and complete KY 393 permanent construction in the KY 393 Diversion 'A' and 'B' to eliminate traffic conflicts with the traffic pattern at the connections with the existing pavement, and complete the temporary striping in those locations
- Ramp 'C':** Completed and open to traffic.
- KY 393 from Ramp 'C' to Commerce Parkway:** Shift northbound traffic to the eastern ultimate northbound lane. Shift southbound traffic to the inner ultimate northbound lane north of KY 393 Station 335+50. South of that point, complete the installation of a barrier median crossover. Case II in the Standard Drawings. Direct southbound traffic through the crossover in the existing barrier median to meet the existing southbound lane at the Ramp 'D' entry. Cordon off the completed northbound left-turn lane to Commerce Parkway. West using channelization devices. Remove Existing KY 393 south of Commerce Parkway from service. Place ROAD CLOSED signs mounted on Type III Barricades on Existing KY 393 on the south side of the Commerce Parkway intersection. Proceed with construction of the median and southbound lanes up to the barrier median. Complete the temporary striping for those areas that lie outside of the temporary traveled way.
- Commerce Parkway and Frontage Road 'A' west of Existing KY 393:** Completed and open to traffic.
- Commerce Parkway East of Existing KY 393:** Completed and open to traffic.
- KY 393 from Commerce Parkway to Buckner Crossings Access Road:** Shift KY 393 traffic to the KY 393 Diversion 'A' and 'B' to eliminate traffic conflicts with the traffic pattern at the connections with the existing pavement, and complete the temporary striping in those locations
- Frontage Road 'B':** Once KY 393 traffic has been shifted to Traffic Diversion 'A' and the northbound side of the new KY 393 roadway, close Existing KY 393 to traffic at the southern and northern ends of Frontage Road 'B'. Install temporary concrete barrier wall across the northern end of Frontage Road 'B'. Frontage Road 'B' and the western 'bulb-out' of Frontage Road 'B' at the Buckner Crossings Access Road intersection up to the final surface course and permanent striping. If not completed previously, install the storm sewer outfall for the CSXT Railroad along the east side of the Stormage Road 'B'. Erect signing and striping for the Stormage Road 'B' and the KY 393 Diversion 'A' sewer adjacent to southbound traffic on Traffic Diversion 'A'. Access to some parcels along Frontage Road 'B' will now be via the Buckner Crossings Access Road Intersection.
- Traffic Diversion 'A':** Completed and open to traffic.

Phase 4 (cont.):

- KY 393 from Buckner Crossings Access Road to CSXT Railroad:** As the KY 393 southbound side lanes are completed and available for traffic, shift southbound traffic to the KY 393 Diversion 'A' and apply the ultimate (permanent) striping configuration shown in the striping plans. Shift southbound traffic from Traffic Diversion 'A' to southbound KY 393.
- SPECIAL NOTES:**
- Access to Adjacent Properties**
Throughout construction, access shall be maintained to all residential, commercial and institutional properties along KY 393, Commerce Parkway, Frontage Road 'A', Frontage Road 'B', and Traffic Diversion 'A'. Continuous access shall be maintained to all properties using part-width entrance construction or alternating entrance construction for properties with two or more entrances.
- Difference in Elevation for Travel Lanes**
A pavement edge that traffic is expected to cross in a lane change situation should not have a height difference greater than 2 inches. Warning signs should be placed in advance of and throughout the drop-off area.
- Pavement Edge Drop-Off Signage and Protection**
Pavement edges that traffic is not expected to cross, except accidentally, should be treated as follows:
- Less than 2 inches - No protection required. Warning signs should be placed in advance and throughout the drop-off area.
 - 2 inches to 4 inches - Place plastic drums, vertical panels, or barricades every 50 feet. Cones may be used in place of plastic drums, panels, and barricades during daylight hours. Spacing of channelization devices along paper 'S' should be in accordance with the Manual on Uniform Traffic Control Devices.
 - Greater than 4 inches - Positive separation or wedge with a 3:1 or flatter slope. If there is 8 feet or more distance between the edge of pavement and drop-off, drums, panels or barricades may be used. If the distance is less than 8 feet, drums, panels or barricades and burn lights should be used for overnight installations. Payment will be allowed for the D&A or crushed stone base used for wedging.
 - For temporary conditions, drop-offs greater than 4 inches may be protected with plastic drums, vertical panels, or barricades for short distances during daylight hours while work is being done in the drop-off area.

Blasting Operations

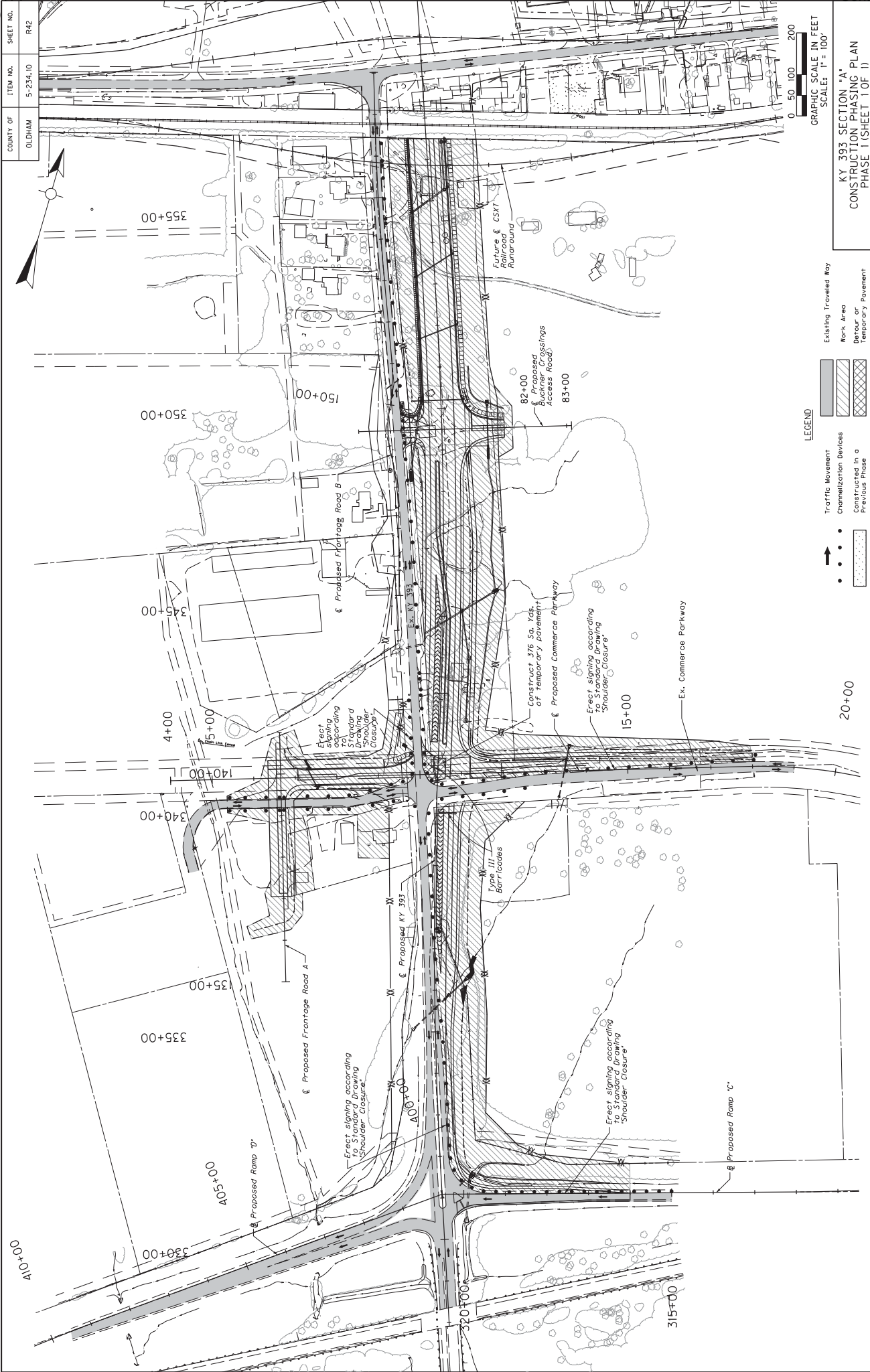
Traffic may be stopped intermittently for blasting on weekdays between the hours of 5:00 a.m. and 2:00 p.m. for evening local traffic on longer hauls. Traffic may be stopped for 20 minutes or longer. Payment will be allowed to allow the execution of the shot and to allow for removal of rock fragments and debris from the traveled way. Consecutive blasts shall be separated by time intervals of at least 30 minutes to enable traffic queues to dissipate. In no case shall traffic be halted for subsequent blasts. In the opinion of the Engineer, traffic has not sufficiently cleared.

The Contractor, when blasting, shall halt traffic, blast, clean the existing pavements and return traffic to normal operation in the least amount of time possible.

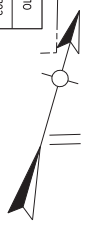
Contrary to Section 08.09 of the Standard Specifications for Road and Bridge Construction (2012 Edition), Liquidated Damages in the amount of \$500 shall be charged whenever the roadway remains closed during blasting for more than 15 minutes. In addition, \$1,000 shall be charged for each hour more than 15 minutes of closure thereof, that the roadway remains closed to traffic for blasting.

Phase 4:

- KY 393 from I-71 to Buckner Crossings Access Road:** Apply the final surface course and permanent striping to all unfinished segments of the KY 393 southbound lanes, and shift southbound KY 393 traffic to the ultimate southbound lanes of KY 393 as the work is completed. Near the I-71 ramp, terminal, construct the gap in the barrier median crossover. Case II in the Standard Drawings. Direct southbound traffic from the northbound lane within a Lane Closure Multi-Lane Highway Case I as illustrated in the Standard Drawings. Apply the final surface course and permanent striping to the KY 393 inside northbound lane and complete the temporary striping for the KY 393 Diversion 'A'. Complete the paving and permanent striping for the outer northbound lane. Open both northbound lanes to traffic as the work is completed.



COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	R42



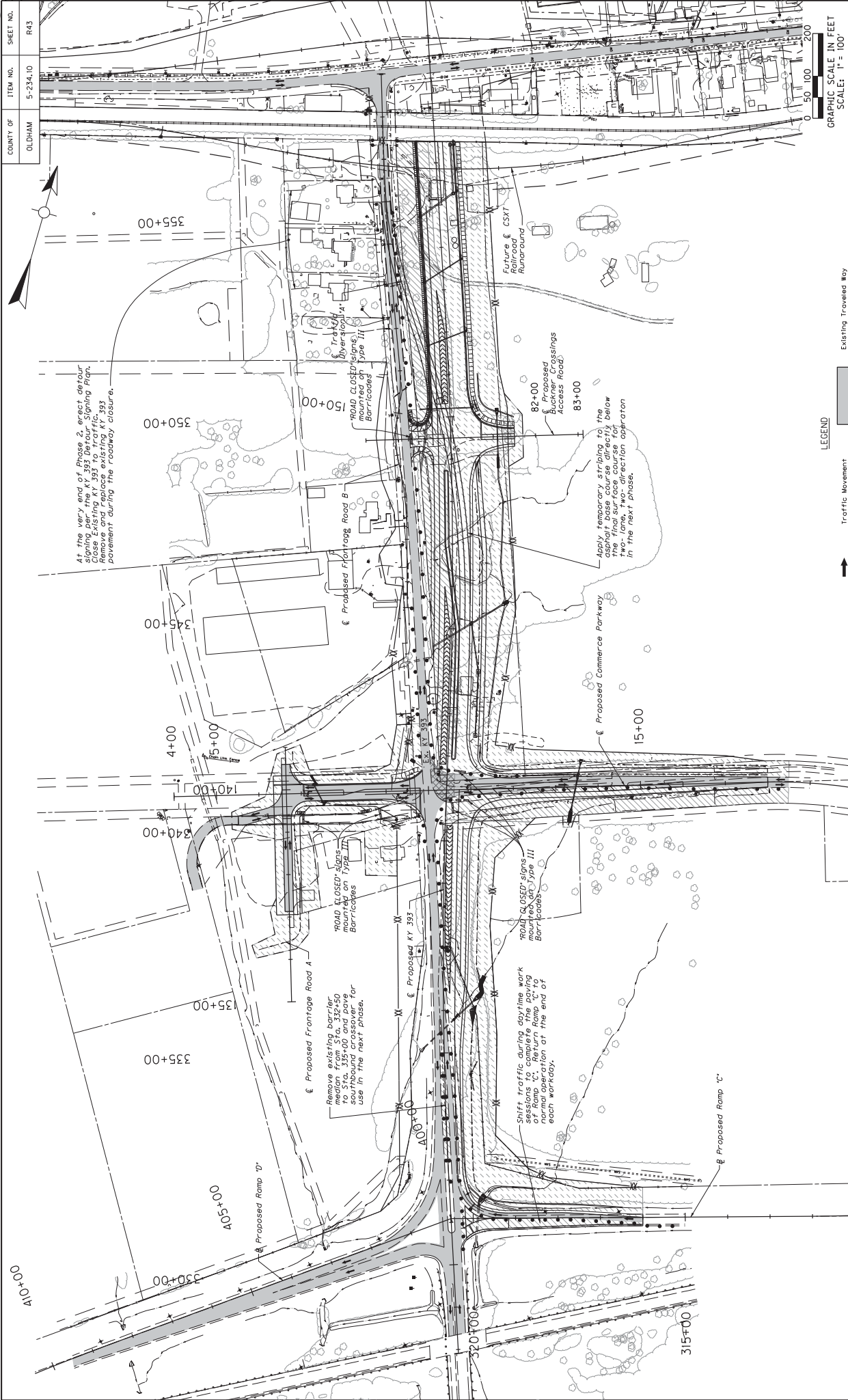
GRAPHIC SCALE IN FEET
SCALE: 1" = 100'

KY 393 SECTION "A"
CONSTRUCTION PHASING PLAN
PHASE I (SHEET 1 OF 1)

LEGEND

- Traffic Movement: Arrow pointing right
- Channelization Devices: Dashed line with dots
- Constructed In a Previous Phase: Dotted pattern
- Existing Traveled Way: Solid grey fill
- Work Area Before or Temporary Pavement: Diagonal hatching

COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	R43



GRAPHIC SCALE IN FEET
SCALE: 1" = 100'

KY 393 SECTION "A"
CONSTRUCTION PHASING PLAN
PHASE 2 (SHEET 1 OF 1)

LEGEND

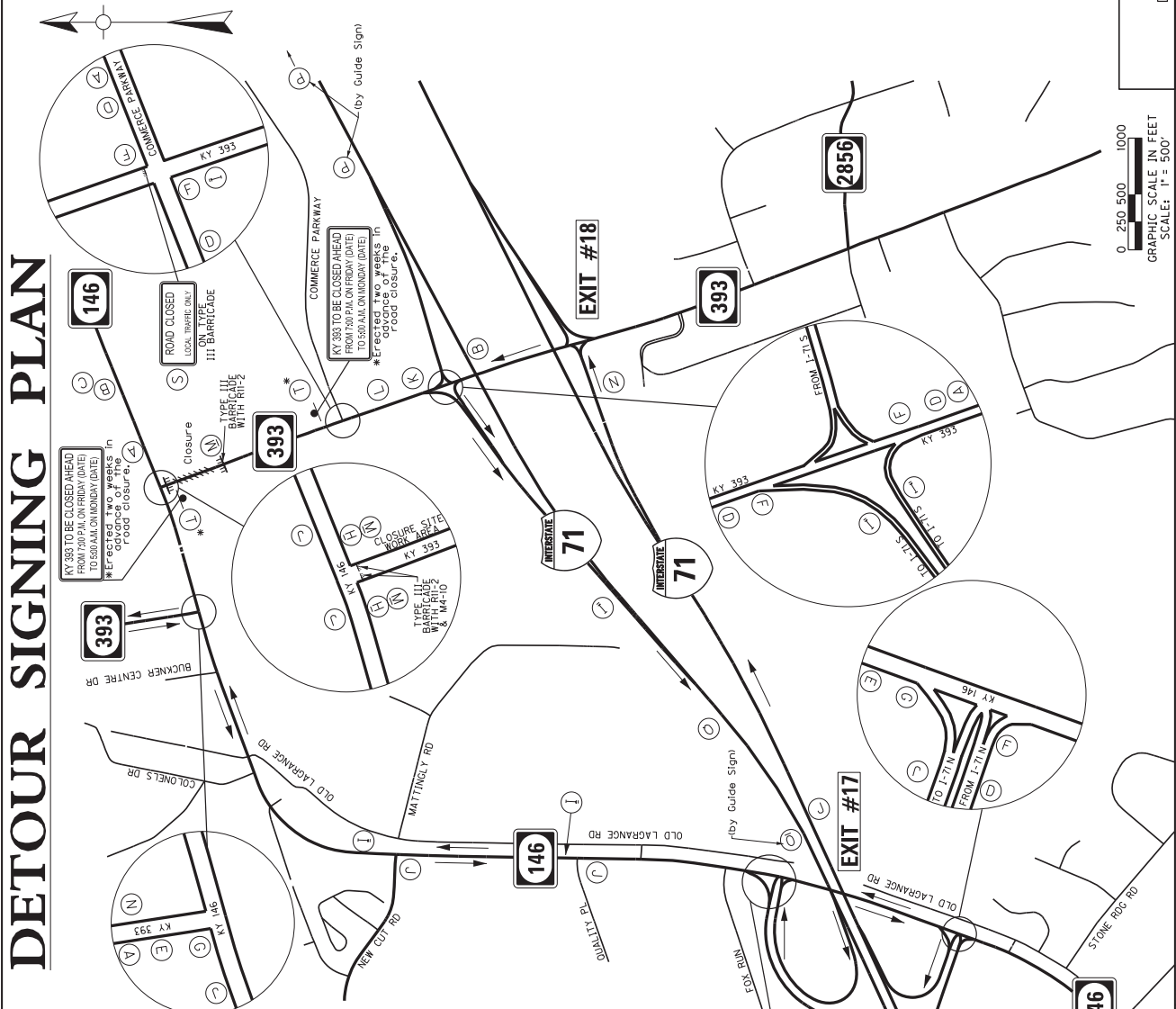
- Traffic Movement
- Channelization Devices
- Constructed in a Previous Phase
- Existing Traveled Way
- Work Area Before or Temporary Pavement

DETOUR SIGNING PLAN

COUNTY OF OLDHAM
ITEM NO. 5-234-10
SHEET NO. R43A

SIGN	TEXT	MUTCD DESIGNATION	SIZE (WxH) (inches)	HEIGHT (inches)	AREA (Sq. Ft.)	NO. REQUIRED	TOTAL AREA (Sq. Ft.)
A	DETOUR AHEAD	W20-2	36	36	9.0	4	36.0
B	ROAD CLOSED AHEAD	W20-3	36	36	9.0	2	18.0
C	SIDE ROAD	Special	24	24	4.0	1	4.0
D / E	DETOUR (Diagonal)	M3-1 / M3-3	24	12	2.0	8	16.0
F	State Route Sign	M5-1	24	24	4.0	8	32.0
G / H	DETOUR (Diagonal)	M4-8	24	12	2.0	8	16.0
I / J	DETOUR (Diagonal)	M4-10	48	18	6.0	2	12.0
K	Directional Arrow	M6-3	21	15	2.2	8	17.6
L	ROAD CLOSED 1000 FT	W20-3	36	36	9.0	1	9.0
M	ROAD CLOSED 500 FT	W20-3	36	36	9.0	1	9.0
N	END DETOUR	M4-8A	24	18	3.0	2	6.0
O	DETOUR (Diagonal)	M3-1	24	12	2.0	2	4.0
P	State Route Sign	M5-1	24	24	4.0	2	8.0
Q	Directional Arrow	M6-2	21	15	2.2	2	4.4
R	DETOUR (Diagonal)	M4-8	24	12	2.0	3	6.0
S	KY 393 NORTH USE EXIT 17	Special	48	36	12.0	3	36.0
T	KY 393 TO BE CLOSED AHEAD FROM 7:00 P.M. ON MONDAY DATE) TO 5:00 A.M. ON MONDAY DATE) (Erected two weeks in advance of the road closure)	Special	60	36	15.0	2	30.0
TOTAL:							552.8

Quantity carried forward to General Summary



SIGN LEGEND

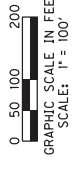
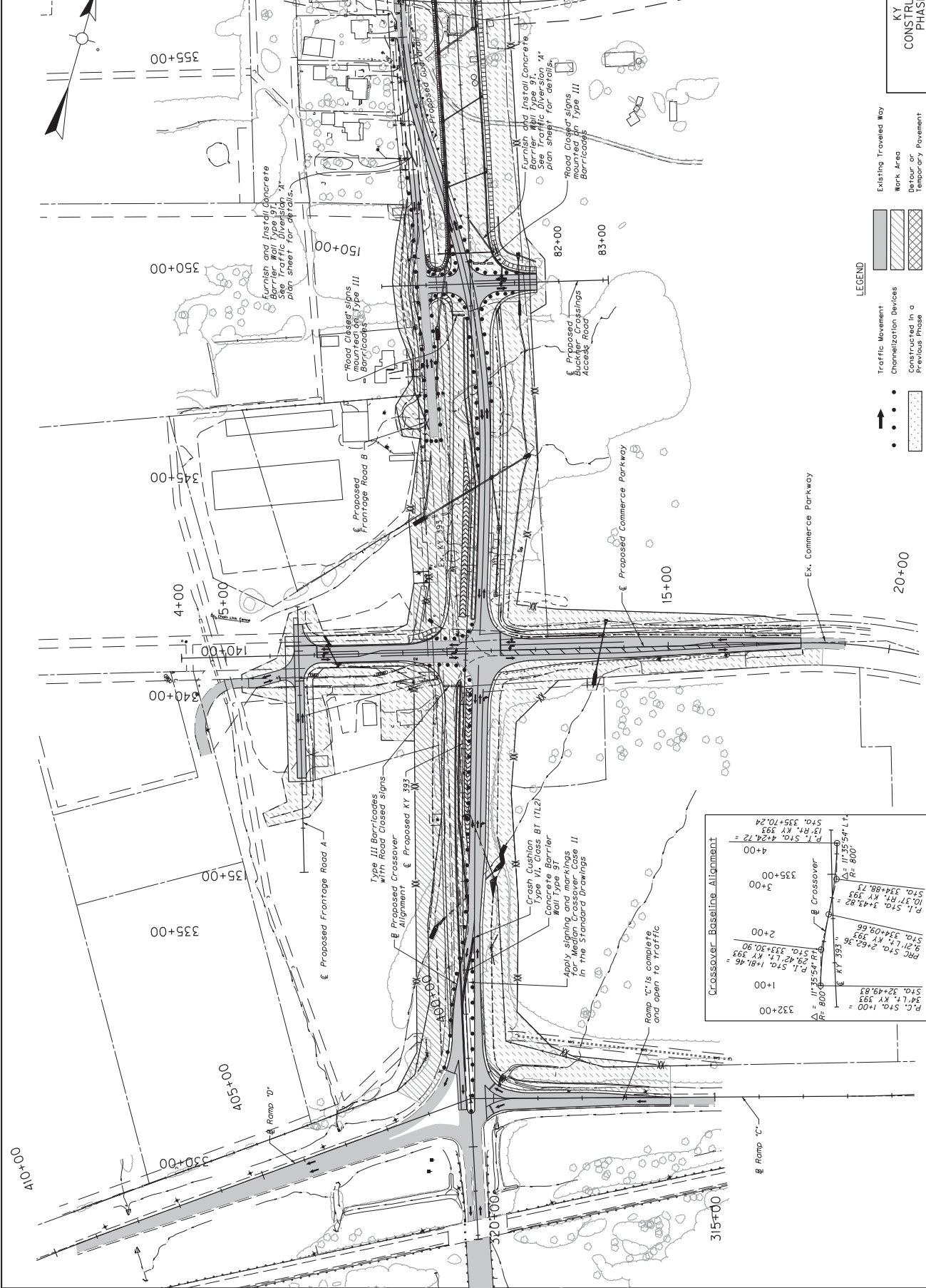
(A) DETOUR AHEAD (B) ROAD CLOSED AHEAD (C) SIDE ROAD (D) DETOUR NORTH (E) DETOUR SOUTH (F) DETOUR NORTH (G) DETOUR SOUTH (H) DETOUR (I) DETOUR NORTH (J) DETOUR SOUTH (K) ROAD CLOSED 1000 FT (L) ROAD CLOSED 500 FT (M) ROAD CLOSED (N) END DETOUR (O) DETOUR NORTH (P) KY 393 NORTH USE EXIT 17 (Q) DETOUR NORTH (R) 393

- NOTES:**
- Directional arrows and words indicating compass direction on signs shall be customized on each sign for the specific application as appropriate.
 - All signs shall conform to the standards established in the Manual for Uniform Traffic Control Devices for size, coloration, mounting height, and lateral offset.
 - Sign spacing at the intersections shall be in accordance with the Manual for Uniform Traffic Control Devices (8th Edition) [MUTCD, 2009 Edition].
 - Orientation of the A, B, C letters indicates the direction that the sign is to be viewed.



KY 393 SECTION "A"
DETOUR SIGNING PLAN

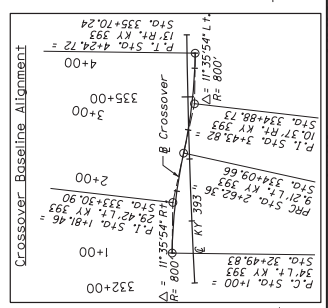
COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	R44



KY 393 SECTION "A"
CONSTRUCTION PHASING PLAN
PHASE 3 (SHEET 1 OF 1)

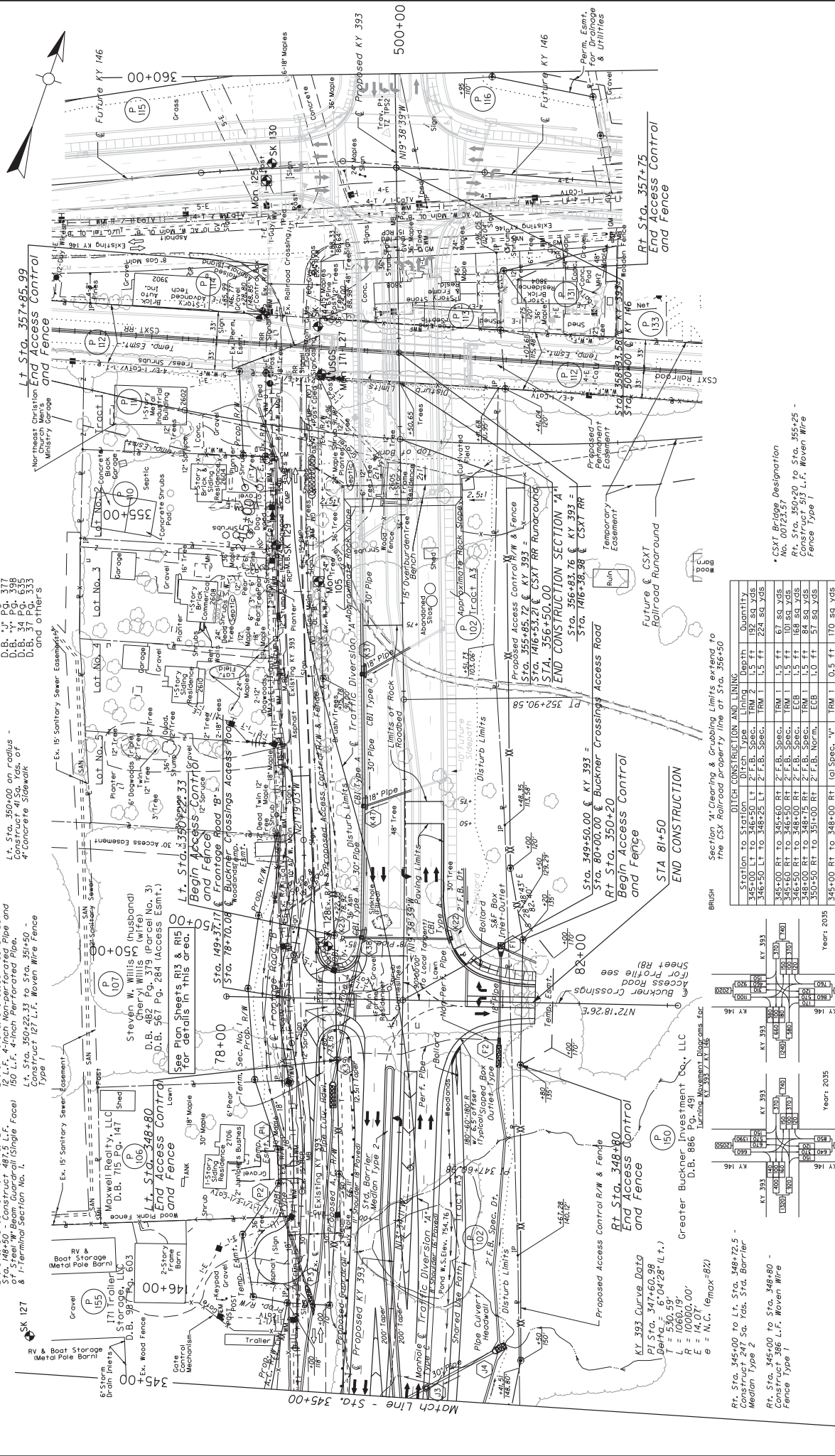
LEGEND

	Existing Traveled Way
	Work Area
	Barricade or Temporary Pavement
	Traffic Movement
	Channelization Devices
	Constructed in a Previous Phase



COUNTY OF OLDHAM
SHEET NO. 5-234-10
R7

Pro-Tech Auto Repair & Diagnostic Center, LLC, a Kentucky Limited Liability Company, D.B. 818 Pg. 46
CSX Transportation (Formerly Louisville & Nashville Railroad) (Formerly Louisville & Frankfort Railroad Company) D.B. 347 Pg. 347
MMG Holdings, LLC (Formerly Louisville & Frankfort Railroad Company) D.B. 347 Pg. 347
Stevén W. Willis (husband) & Cheryl Willis (wife) (Sewer Esm't.) D.B. 482 Pg. 379
Maxwell Realty, LLC D.B. 715 Pg. 147
Greater Buckner Investment Co., LLC D.B. 8149 Pg. 504
D.B. 6173 Pg. 279 (Sewer Esm't.)



Greater Buckner Investment Co., LLC
D.B. 8149 Pg. 504
D.B. 6173 Pg. 279 (Sewer Esm't.)

Greater Buckner Investment Co., LLC
D.B. 8149 Pg. 504
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Greater Buckner Investment Co., LLC
D.B. 8149 Pg. 504
D.B. 6173 Pg. 279 (Sewer Esm't.)

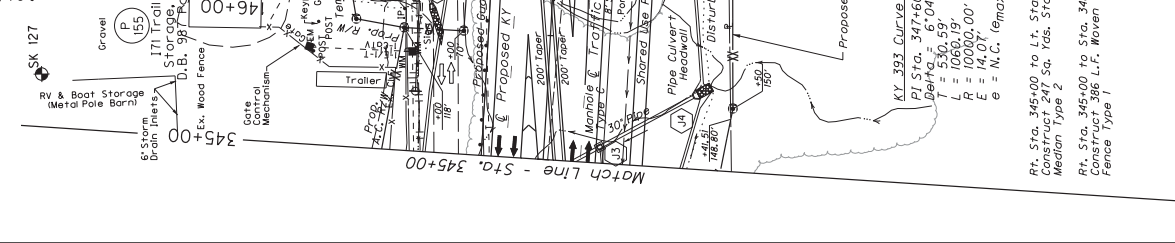
Greater Buckner Investment Co., LLC
D.B. 8149 Pg. 504
D.B. 6173 Pg. 279 (Sewer Esm't.)

Greater Buckner Investment Co., LLC
D.B. 8149 Pg. 504
D.B. 6173 Pg. 279 (Sewer Esm't.)

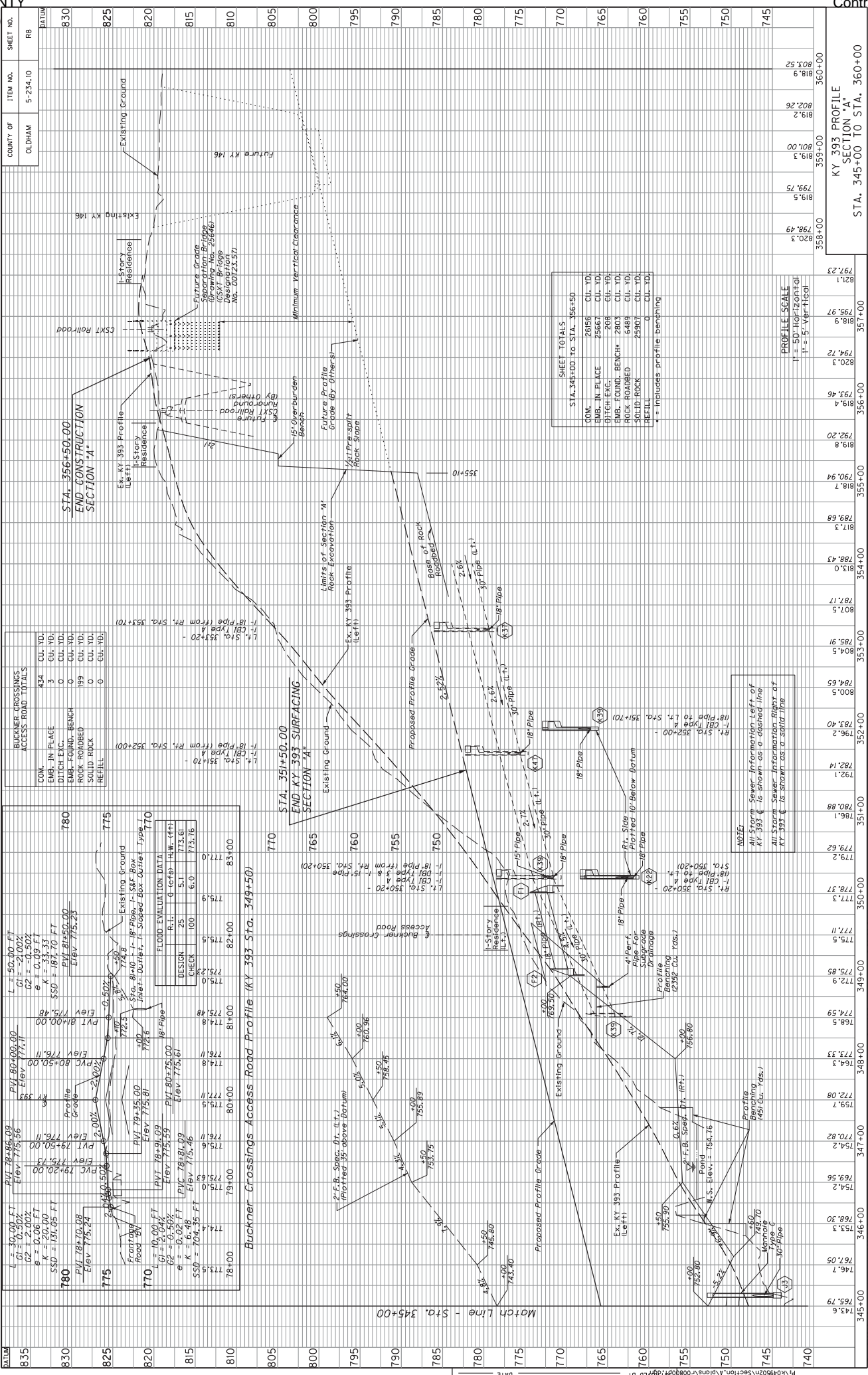
Greater Buckner Investment Co., LLC
D.B. 8149 Pg. 504
D.B. 6173 Pg. 279 (Sewer Esm't.)

Greater Buckner Investment Co., LLC
D.B. 8149 Pg. 504
D.B. 6173 Pg. 279 (Sewer Esm't.)

Pro-Tech Auto Repair & Diagnostic Center, LLC, a Kentucky Limited Liability Company, D.B. 818 Pg. 46



Greater Buckner Investment Co., LLC
D.B. 8149 Pg. 504
D.B. 6173 Pg. 279 (Sewer Esm't.)



BALANCE	DATE	CHECKED BY	DATE
740	8/11/2015	8/11/2015	8/11/2015
745	8/11/2015	8/11/2015	8/11/2015
750	8/11/2015	8/11/2015	8/11/2015
755	8/11/2015	8/11/2015	8/11/2015
760	8/11/2015	8/11/2015	8/11/2015
765	8/11/2015	8/11/2015	8/11/2015
770	8/11/2015	8/11/2015	8/11/2015
775	8/11/2015	8/11/2015	8/11/2015
780	8/11/2015	8/11/2015	8/11/2015
785	8/11/2015	8/11/2015	8/11/2015
790	8/11/2015	8/11/2015	8/11/2015
795	8/11/2015	8/11/2015	8/11/2015
800	8/11/2015	8/11/2015	8/11/2015
805	8/11/2015	8/11/2015	8/11/2015
810	8/11/2015	8/11/2015	8/11/2015
815	8/11/2015	8/11/2015	8/11/2015
820	8/11/2015	8/11/2015	8/11/2015
825	8/11/2015	8/11/2015	8/11/2015
830	8/11/2015	8/11/2015	8/11/2015
835	8/11/2015	8/11/2015	8/11/2015

STATIONING
 STA. 345+00 TO STA. 360+00

PROFILE SCALE

1" = 5'-0" Vertical
1" = 5'-0" Horizontal

SHEET TOTALS

STA. 345+00 TO STA. 356+50	CL. YD.
COM.	26156
EMB. IN PLACE	25667
BFFH EXC.	208
EMB. FOUND. BENCH	2803
ROCK ROADBED	6489
SOLID ROCK	2307
REFILL	0

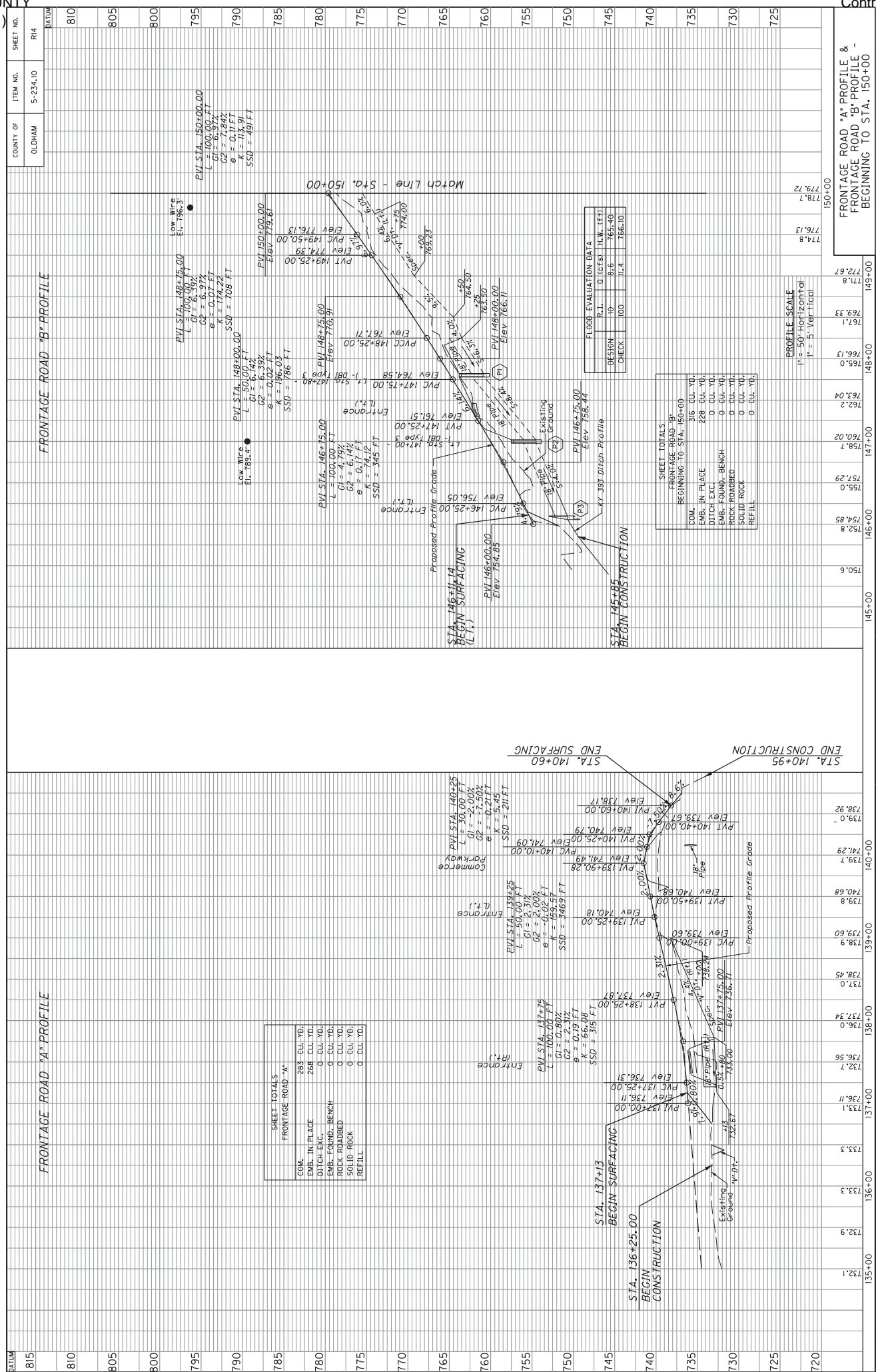
* Includes profile benching

BUCKNER CROSSINGS ACCESS ROAD PROFILE (KY 393 STA. 349+50)

STA. 345+00 TO STA. 360+00

SECTION "A"

8/11/2015



FRONTAGE ROAD "B" PROFILE

FRONTAGE ROAD "A" PROFILE

SHEET TOTALS		FRONTAGE ROAD "A"	
COM.	283	CUL. YD.	0
EMB. IN PLACE	268	CUL. YD.	0
DITCH EXC.	0	CUL. YD.	0
EMB. FOUND. BENCH	0	CUL. YD.	0
ROCK ROADBED	0	CUL. YD.	0
SOLID ROCK	0	CUL. YD.	0
REFILL	0	CUL. YD.	0

SHEET TOTALS		FRONTAGE ROAD "B"	
COM.	316	CUL. YD.	0
EMB. IN PLACE	228	CUL. YD.	0
DITCH EXC.	0	CUL. YD.	0
EMB. FOUND. BENCH	0	CUL. YD.	0
ROCK ROADBED	0	CUL. YD.	0
SOLID ROCK	0	CUL. YD.	0
REFILL	0	CUL. YD.	0

FLOOD EVALUATION DATA	
DESIGN	10.0
CHECK	100
BL.	0 (CS)
H.W.	(4.5)
BL. 6	765.40
BL. 4	766.10

PROFILE SCALE
1" = 50' Horizontal
1" = 5' Vertical

FRONTAGE ROAD "A" PROFILE &
FRONTAGE ROAD "B" PROFILE
BEGINNING TO STA. 150+00

STATION	ELEVATION	STATION	ELEVATION
135+00	732.1	145+00	750.6
135+25	732.7	145+25	752.8
136+00	733.3	146+00	754.85
136+25	733.9	146+25	757.29
137+00	735.1	147+00	760.02
137+25	736.11	147+25	762.2
138+00	737.34	148+00	763.04
138+25	737.75	148+25	763.33
139+00	738.9	149+00	767.1
139+25	739.60	149+25	771.8
140+00	740.68	150+00	773.72
140+25	741.29		
141+00	742.92		
141+25	743.90		
142+00	744.09		
142+25	744.25		
143+00	744.19		
143+25	744.00		
144+00	743.61		
144+25	743.11		
145+00	742.61		
145+25	742.11		
146+00	741.61		
146+25	741.11		
147+00	740.61		
147+25	740.11		
148+00	739.61		
148+25	739.11		
149+00	738.61		
149+25	738.11		
150+00	737.61		

COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	R18

Note: Aggregate entrance quantities for Frontage Road 'B' are for the aggregate pipe installation. The entrance pipe and storm sewer. See Traffic Division 'B' plan sheet for permanent entrance construction.

110 MMC Holdings, LLC
D.B. 847 Pg. 27

111 MMC Holdings, LLC
D.B. 777 Pg. 360
D.B. 722 Pg. 43
(Sant. Sewer Esm't.)

14 Sta. 154+48 - Construct 25 sq. yds. of 12" wide Aggregate Entrance Pavement.

14 Sta. 154+90 - Construct 25 sq. yds. of 12" wide Aggregate Entrance Pavement.

14 Sta. 154+90 - Construct 33 sq. yds. of 12" wide Aggregate Entrance Pavement.

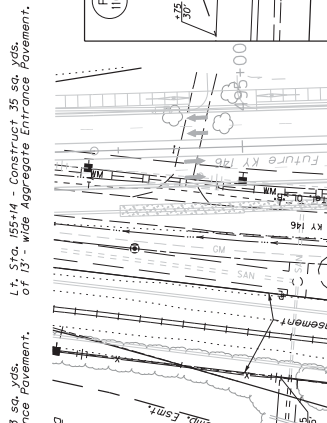
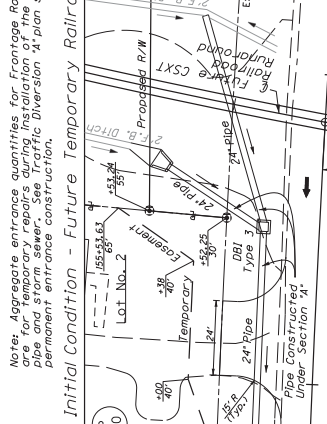
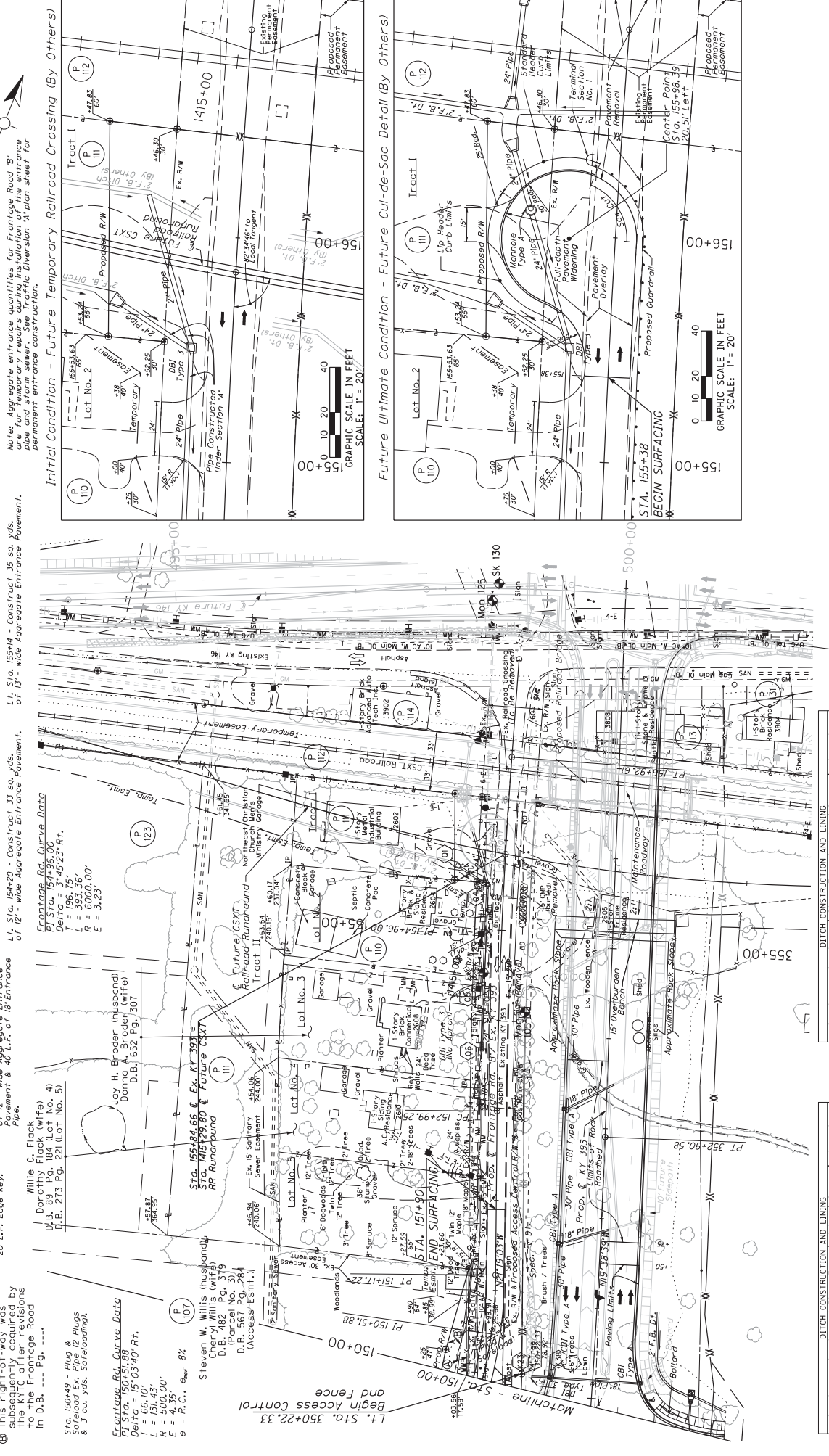
14 Sta. 154+90 - Construct 46 sq. yds. of 16" wide Asphalt Entrance Pavement & 50 L.F. of 18" Entrance Pipe.

14 Sta. 154+96.00 - Construct 15 sq. yds. of 12" wide Aggregate Entrance Pavement & 40 L.F. of 18" Entrance Pipe.

14 Sta. 155+18 - Construct 46 sq. yds. of 16" wide Asphalt Entrance Pavement & 40 L.F. of 18" Entrance Pipe.

14 Sta. 155+38 - Construct 15 sq. yds. of 12" wide Aggregate Entrance Pavement.

14 Sta. 155+38 - Construct 33 sq. yds. of 12" wide Aggregate Entrance Pavement.



BITCH CONSTRUCTION AND LINING

STATION TO START	STATION TO STOP	QUANTITY
150+00	151+92.61	1.0 FT
151+92.61	151+92.61	20.0 SQ YDS

BITCH CONSTRUCTION AND LINING

STATION TO START	STATION TO STOP	QUANTITY
150+00	151+90	1.5 FT
151+90	151+90	17.7 SQ YDS
151+90	152+35	4.5 FT
152+35	152+35	49.5 SQ YDS
152+35	153+26	1.5 FT
153+26	153+26	4.5 SQ YDS

14 Sta. 150+48 - Plug & Sealoff Ex. Pipe (2 Plugs & 3 cu. yds. Sealoff.)

14 Sta. 151+90 - Construct 25 sq. yds. of 12" wide Aggregate Entrance Pavement & 40 L.F. of 18" Entrance Pipe.

14 Sta. 154+48 - Construct 25 sq. yds. of 12" wide Aggregate Entrance Pavement.

14 Sta. 154+90 - Construct 25 sq. yds. of 12" wide Aggregate Entrance Pavement.

14 Sta. 154+90 - Construct 33 sq. yds. of 12" wide Aggregate Entrance Pavement.

14 Sta. 154+96.00 - Construct 15 sq. yds. of 12" wide Aggregate Entrance Pavement & 40 L.F. of 18" Entrance Pipe.

14 Sta. 155+18 - Construct 46 sq. yds. of 16" wide Asphalt Entrance Pavement & 40 L.F. of 18" Entrance Pipe.

14 Sta. 155+38 - Construct 15 sq. yds. of 12" wide Aggregate Entrance Pavement.

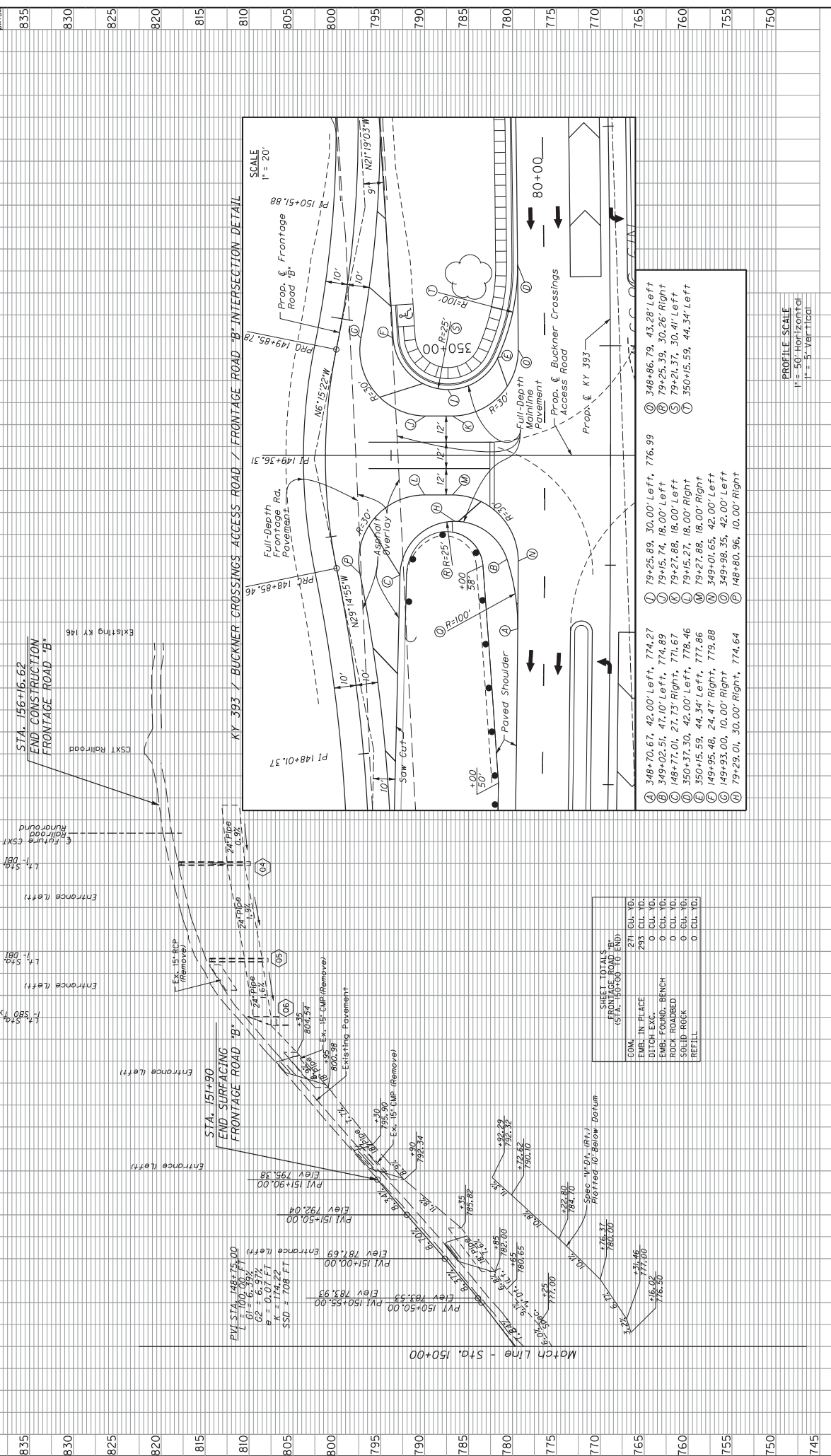
14 Sta. 155+38 - Construct 33 sq. yds. of 12" wide Aggregate Entrance Pavement.

COUNTY OF
OLDHAM

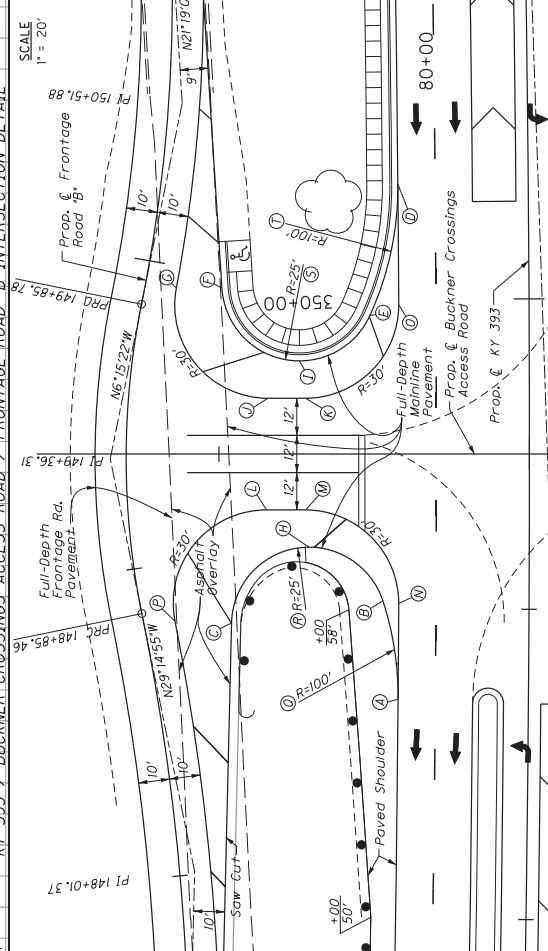
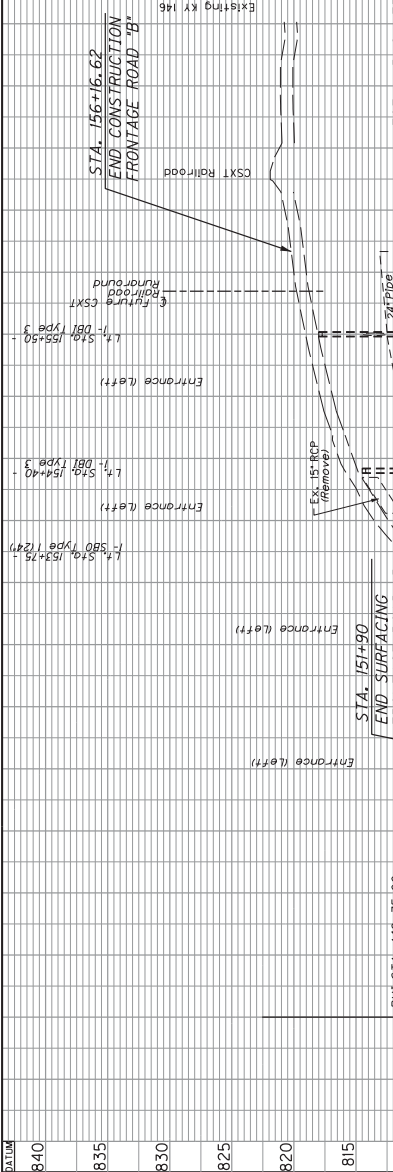
ITEM NO.
5-234.10

SHEET NO.
R16

BALUM	835	830	825	820	815	810	805	800	795	790	785	780	775	770	765	760	755	750
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



BALUM	835	830	825	820	815	810	805	800	795	790	785	780	775	770	765	760	755	750
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



- PROFILE SCALE
1" = 50' Horizontal
1" = 5' Vertical
- ① 348+70.67, 42.00' Left, 774.27
 - ② 349+02.51, 47.10' Left, 774.89
 - ③ 148+77.01, 27.73' Right, 771.67
 - ④ 350+37.30, 42.00' Left, 778.46
 - ⑤ 350+15.59, 44.34' Left, 772.86
 - ⑥ 149+95.46, 24.47' Right, 773.88
 - ⑦ 149+53.00, 10.00' Right, 774.64
 - ⑧ 79+22.01, 30.00' Right, 774.64
 - ⑨ 79+25.89, 30.00' Left, 776.99
 - ⑩ 79+15.74, 18.00' Left
 - ⑪ 79+27.88, 18.00' Left
 - ⑫ 79+15.27, 18.00' Right
 - ⑬ 79+27.88, 18.00' Right
 - ⑭ 349+01.65, 42.00' Left
 - ⑮ 349+96.35, 10.00' Right
 - ⑯ 148+80.96, 10.00' Right

SHEET TOTALS
FROM ROAD END
(STA. 150+00 TO END)

COM.	271' CU. YD.
EMB. IN PLACE	283' CU. YD.
DITCH EXC.	0' CU. YD.
EMB. FOUND. BENCH	0' CU. YD.
ROCK ROADBED	0' CU. YD.
SOLID ROCK	0' CU. YD.
REFILL	0' CU. YD.

FRONTAGE ROAD 'B' PROFILE
STA. 150+00 TO END

Match Line - STA. 150+00

Entrance (Left)

Entrance (Left)

Entrance (Left)

Entrance (Left)

Entrance (Left)

Existing Pavement

Existing KY 146

CSXT Railroad

Full-Depth Frontage Rd. Pavement

Prop. & Frontage Road 'B'

Prop. & Buckner Crossings Access Road

Prop. & KY 393

Full-Depth Asphalt Overlay

Paved Shoulder

Prop. & Buckner Crossings Access Road

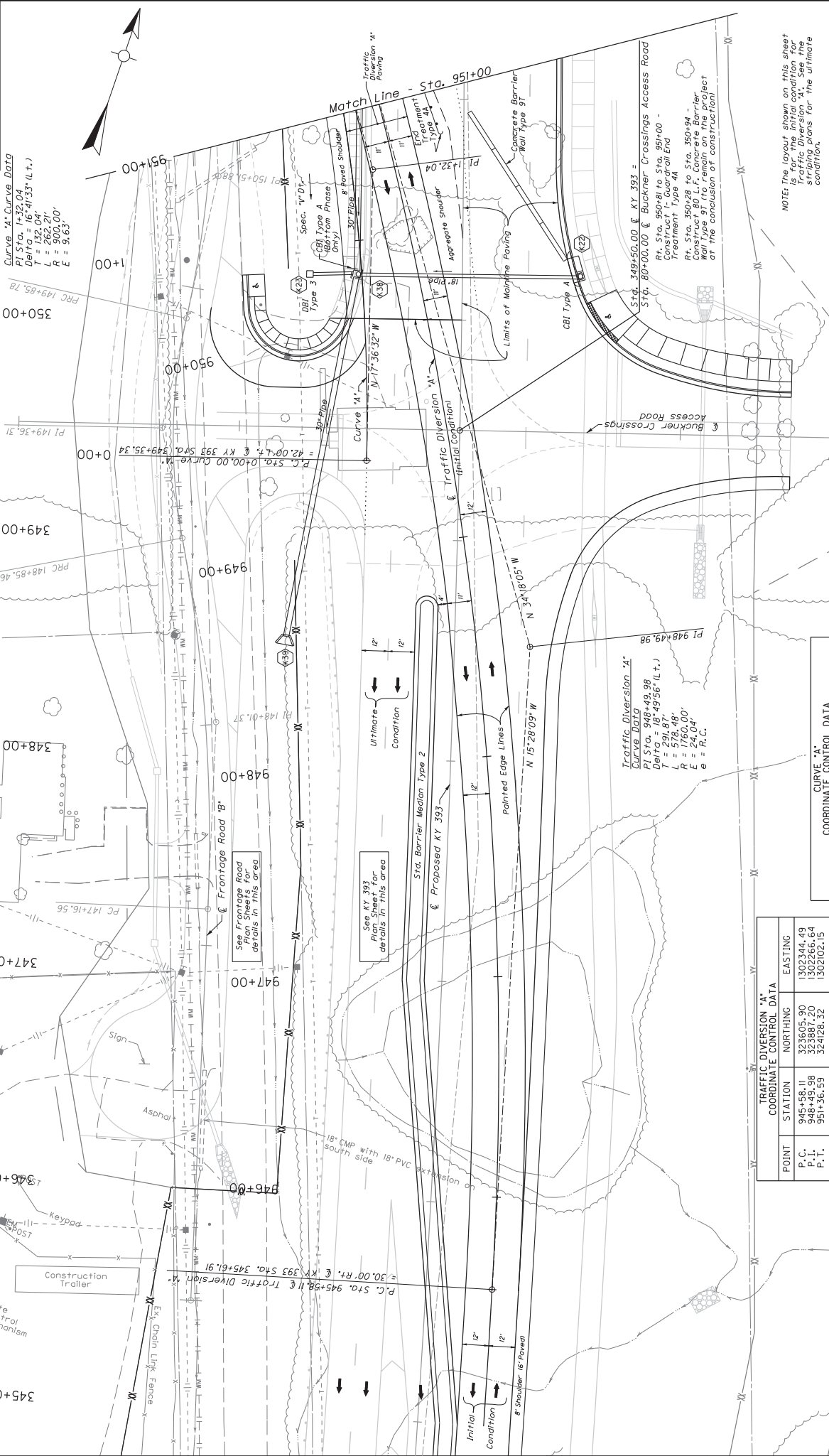
Scale 1" = 20'

Scale 1" = 50' Horizontal, 1" = 5' Vertical

COUNTY OF
OLDHAM

ITEM NO.
5-234-10

SHEET NO.
R17



Curve 'A' Curve Data
 PI Sta. 1+32.04
 Delta = 16° 41' 33" (L.T.)
 L = 266.21'
 R = 900.00'
 E = 9.63'

P.C. Sta. 0+00.00 Curve 'A'
 = 42.00' L.T. @ KY 393 Std. 349+35.34
 P.I. 149+36.31
 P.T. 150+51.88

Curve 'A'
 N 17° 36' 32" W
 N 34° 18' 05" W

Curve 'A'
 PI Sta. 948+49.98
 Delta = 18° 49' 56" (L.T.)
 L = 291.87'
 R = 576.48'
 E = 24.04'
 e = R.C.

P.C. Sta. 945+58.11 @ Traffic Diversion 'A'
 = 50.00' R.T. @ KY 393 Std. 345+61.91

NOTE: The layout shown on this sheet is for the initial condition for Traffic Diversion 'A'. See the conditions for the ultimate condition.

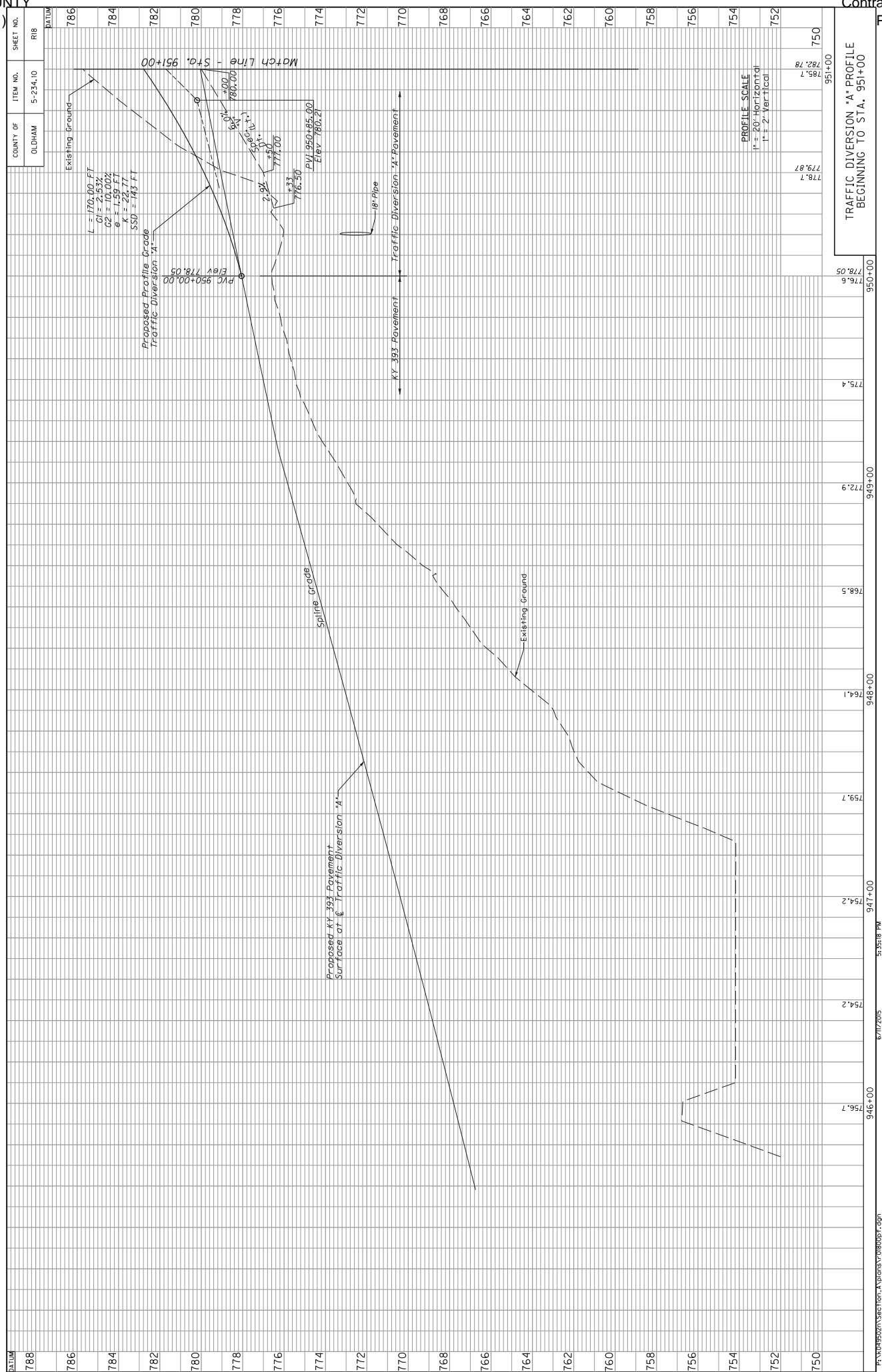
TRAFFIC DIVERSION 'A' PLAN
 BEGINNING TO STA. 951+00

GRAPHIC SCALE IN FEET
 SCALE: 1" = 20'

POINT	CURVE 'A'	
	STATION	COORDINATE CONTROL DATA
P.C.	0+00.00	130269.05
P.I.	1+32.04	130228.30
P.T.	2+62.21	1302054.89

POINT	TRAFFIC DIVERSION 'A'	
	STATION	COORDINATE CONTROL DATA
P.C.	945+58.11	323605.90
P.I.	948+49.98	323881.20
P.T.	951+36.59	324262.52
P.C.	953+02.90	324265.70
P.I.	954+34.49	324374.40
P.T.	955+64.51	324496.79
P.C.	956+52.36	324620.08
P.T.		13088501.94

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COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	R18

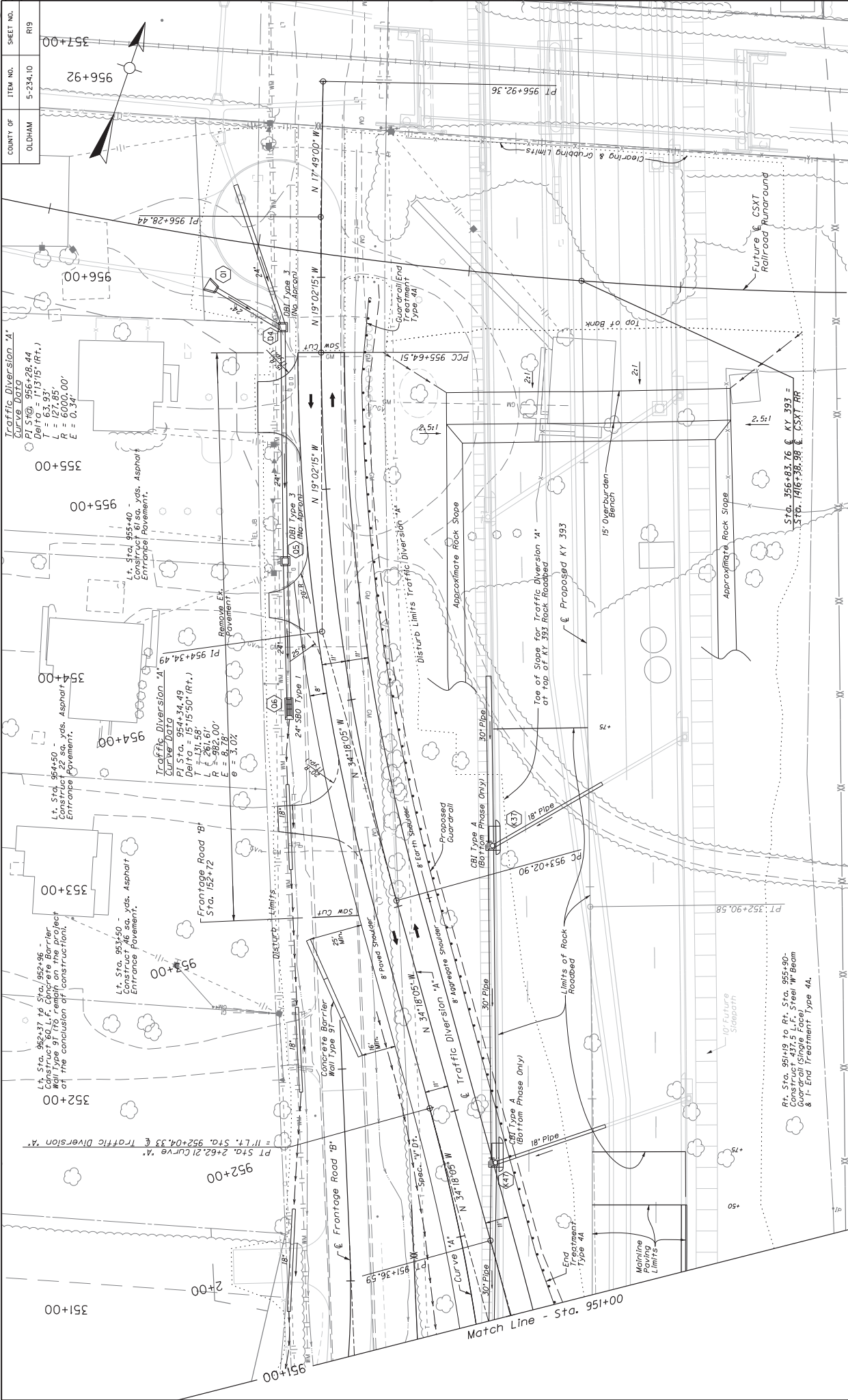
ELEVATION	STATIONING
786	951+00
784	951+00
782	951+00
780	951+00
778	951+00
776	951+00
774	951+00
772	951+00
770	951+00
768	951+00
766	951+00
764	951+00
762	951+00
760	951+00
758	951+00
756	951+00
754	951+00
752	951+00
750	951+00

TRAFFIC DIVERSION 'A' PROFILE
BEGINNING TO STA. 951+00

951+00
950+00
949+00
948+00
947+00
946+00

786.6
785.4
782.9
788.5
784.1
789.7
784.2
786.7
785.1
782.78
785.7
783.87

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COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	R18

TRAFFIC DIVERSION 'A' PLAN
STA. 951+00 TO END

GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

Traffic Diversion 'A'
Curve Data
PI Sta. 956+28.44
Delta = 113°15' (R+)
T = 63.93'
L = 121.85'
E = 0.34'

Lt. Sta. 955+40 -
Construct 61 sa. yds. Asphalt
Entrance Pavement.

Traffic Diversion 'A'
Curve Data
PI Sta. 954+34.49
Delta = 15°15'50" (R+)
T = 131.58'
L = 99.00'
E = 8.78'
θ = 3.02'

Lt. Sta. 954+00 -
Construct 22 sa. yds. Asphalt
Entrance Pavement.

Lt. Sta. 952+96 -
Construct 60 L.F. Concrete Barrier
Wall Type 9T. Remain on the project
at the conclusion of construction.

Lt. Sta. 951+90 -
Construct 46 sa. yds. Asphalt
Entrance Pavement.

Lt. Sta. 952+17 -
Construct 16 sa. yds. Asphalt
Entrance Pavement.

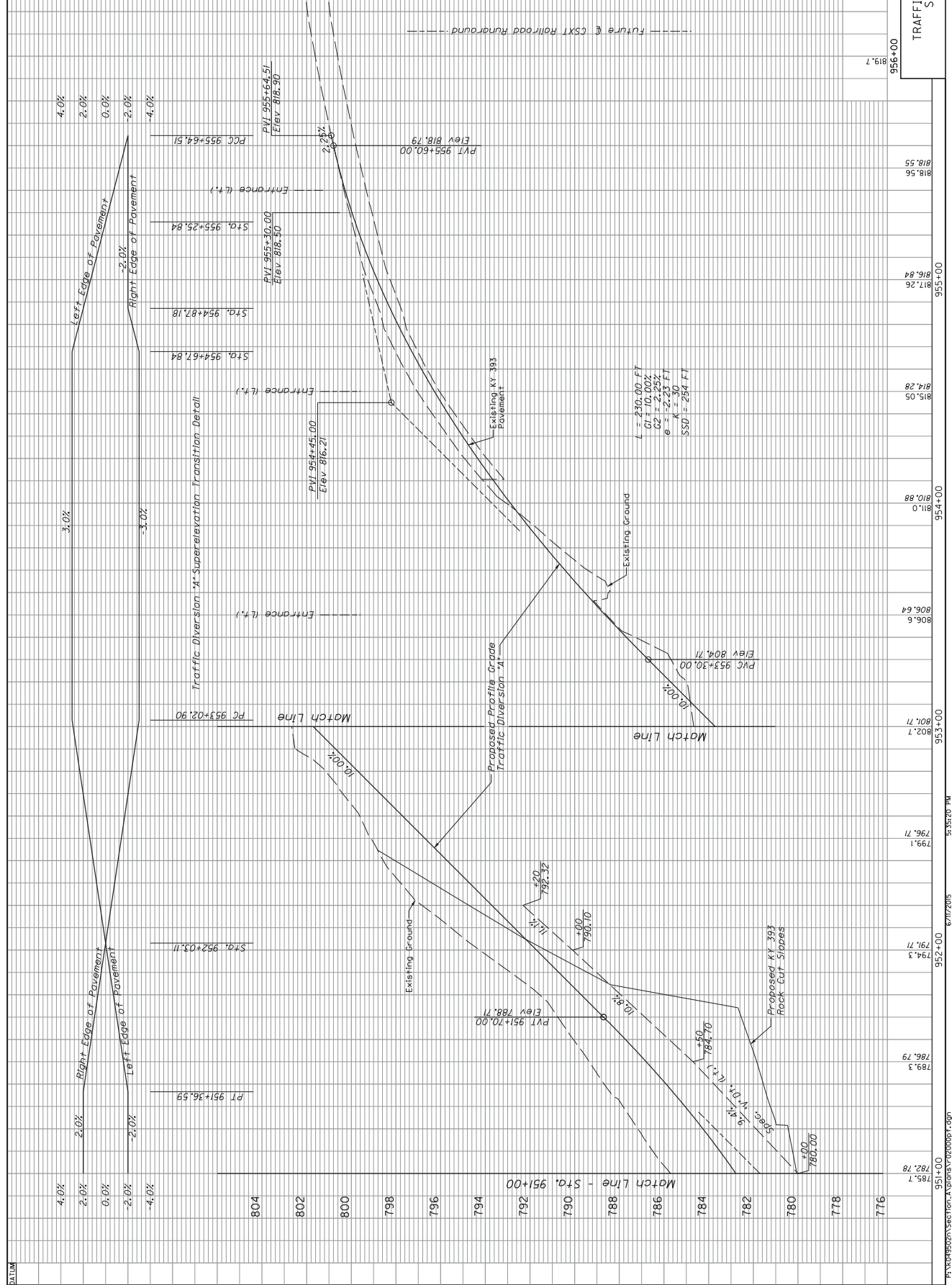
Lt. Sta. 951+19 to Rt. Sta. 955+90 -
Construct 437.5 L.F. Steel W/Beam
Guardrail (Single Face) & 1-End Treatment Type 4A.

Match Line - Sta. 951+00

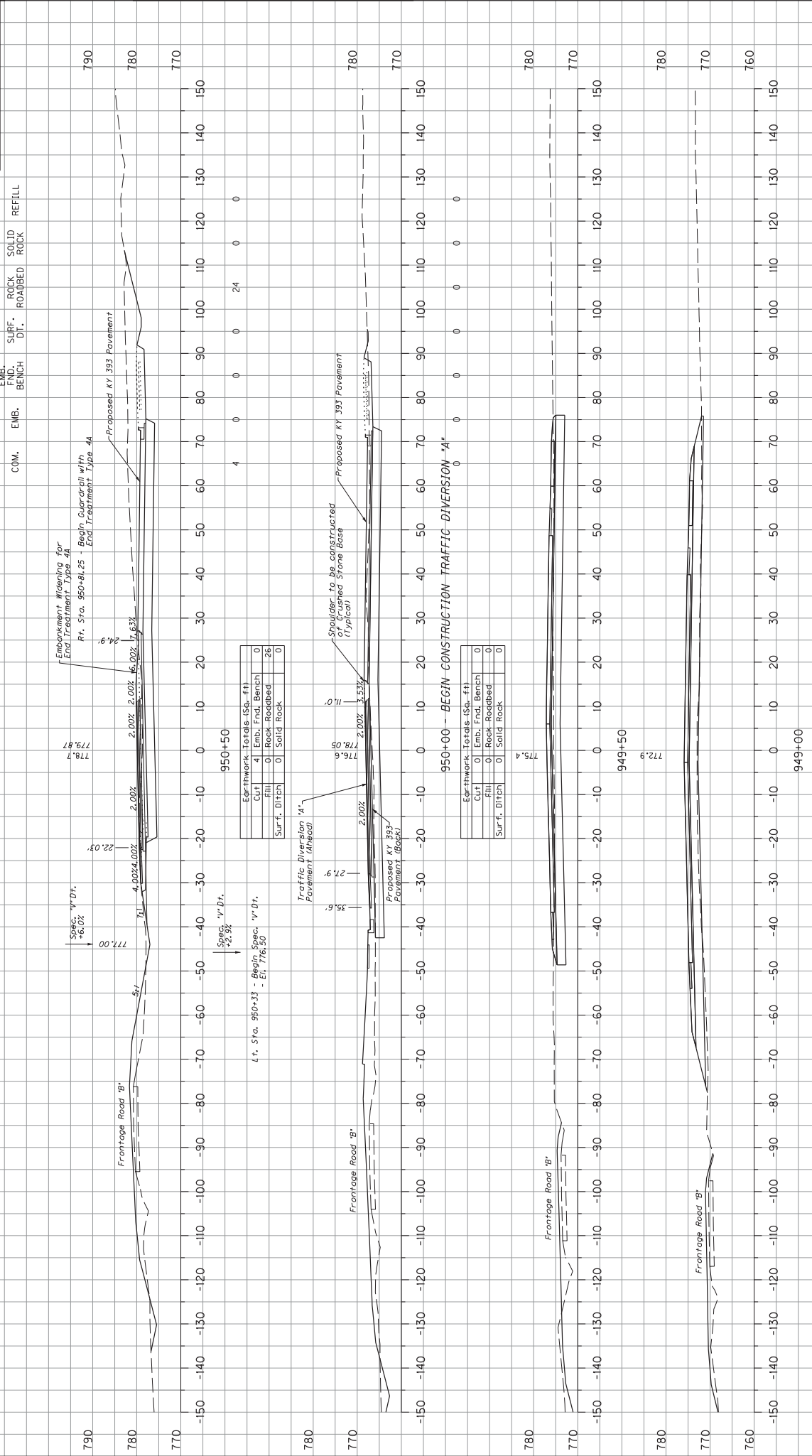
DATE: 6/11/2015 5:35:19 PM
CHECKED BY: [Redacted]
DATE: 6/11/2015 5:35:19 PM
DRAWN BY: [Redacted]

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COUNTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	R20

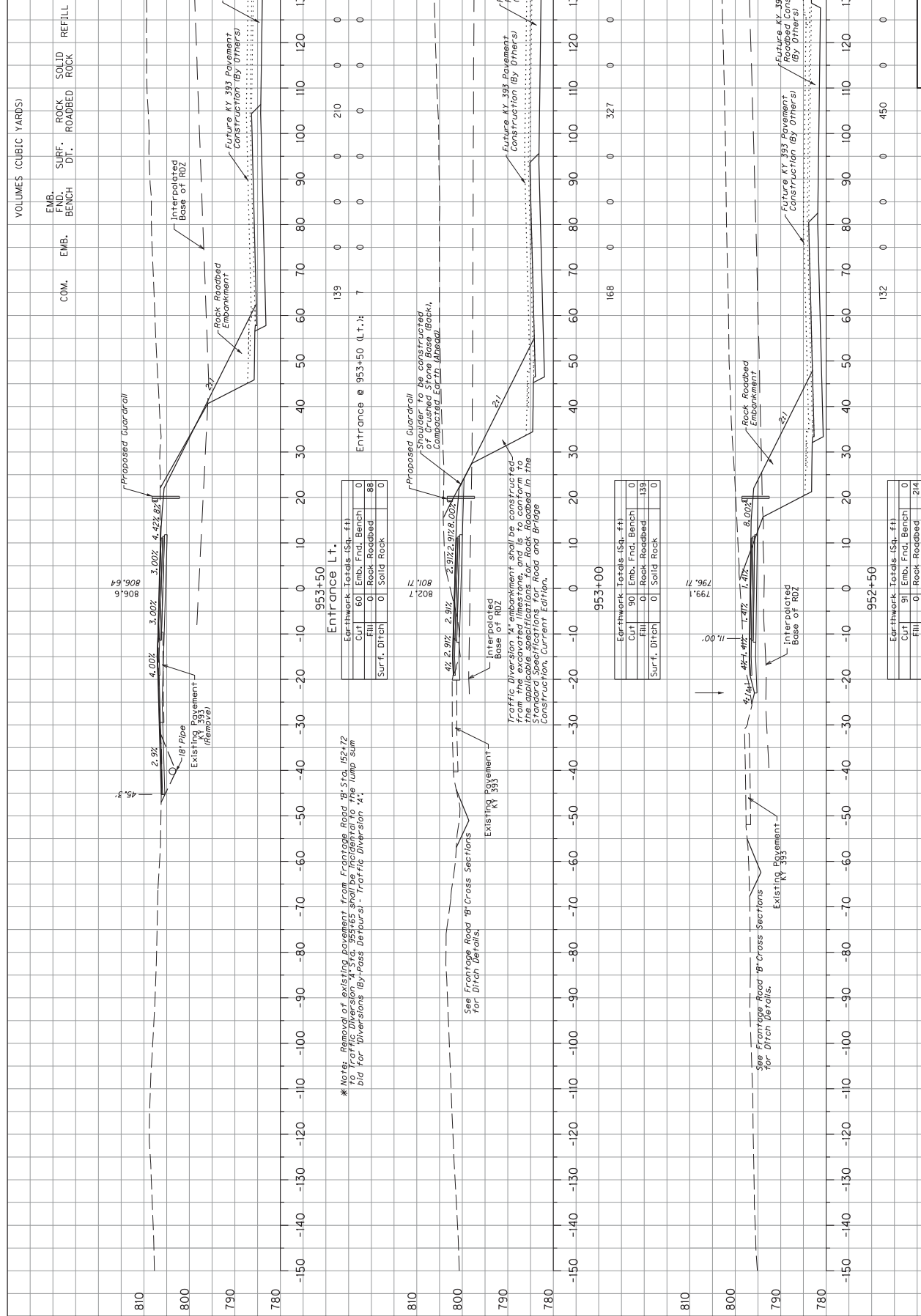


COMTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	X60



NOTE: Traffic Diversion 'A' earthwork end areas represent areas remaining after completion of both the KY 393 and KY 393 Pavement. The KY 393 Pavement is responsible for determining the quantities required for construction of Traffic Diversion 'A'. The Department will not measure Traffic Diversion 'A' earthwork for payment and will consider it incidental to the lump sum bid for Diversion 'A' (see Diversion 'A' Traffic Diversion 'A').

COMTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	X62



Entrance LT.

Earthwork Totals (Sq. Ft.)	
Cut	60 Emb. Fnd. Bench
Fill	0 Rock Roadbed
Surf. Ditch	0 Solid Rock
	0

953+00

Earthwork Totals (Sq. Ft.)	
Cut	90 Emb. Fnd. Bench
Fill	0 Rock Roadbed
Surf. Ditch	0 Solid Rock
	0

952+50

Earthwork Totals (Sq. Ft.)	
Cut	91 Emb. Fnd. Bench
Fill	0 Rock Roadbed
Surf. Ditch	0 Solid Rock
	0

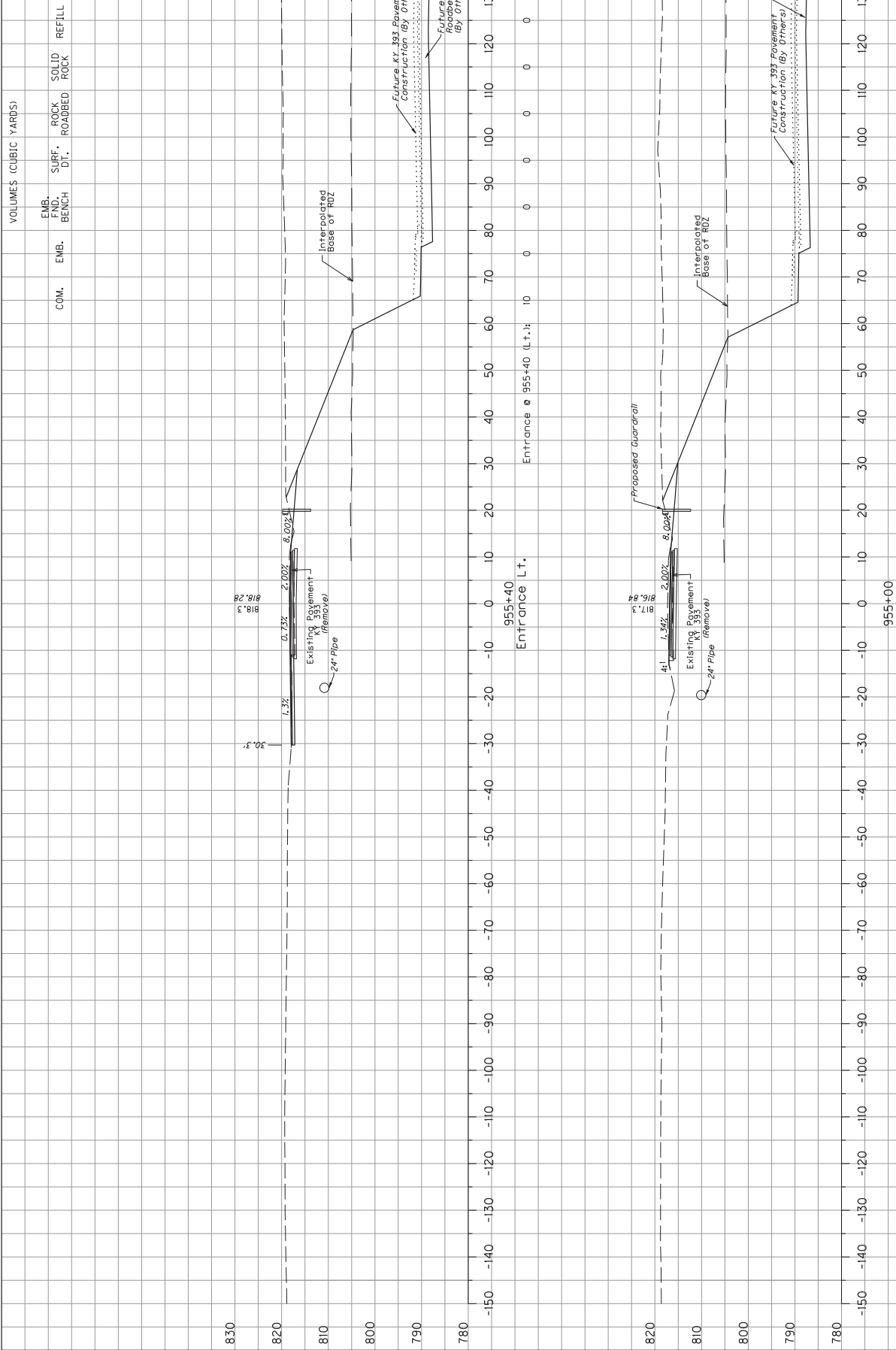
* Note: Removal of existing pavement from Frontage Road 'B' Sta. 952+72 to Traffic Diversion 'A' Sta. 955+65 shall be incidental to the lump sum bid for Diversion (By-Pass Detours) - Traffic Diversion 'A'.

See Frontage Road 'B' Cross Sections for Ditch Details.

See Frontage Road 'B' Cross Sections for Ditch Details.

TRAFFIC DIVERSION "A" CROSS SECTIONS
STA. 952+50 TO STA. 953+50

COMTY OF	ITEM NO.	SHEET NO.
OLDHAM	5-234-10	X64



Earthwork Totals (Sta. - ft.)			
Cut	61	Emb. Fnd. Bench	0
Fill	0	Rock Roadbed	0
Surf. Ditch	0	Solid Rock	0

TRAFFIC DIVERSION "A" CROSS SECTIONS
STA. 955+00 TO STA. 955+40

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: May 12, 2015

Project Name: Widening KY 393

Letting Date: 5/30/15

Project #: 5-234.10

County: OLDHAM

Item #: _____

Federal #: N/A

Description of Project: KY 393 reconstruction from northern ramp of I-71 to 140 feet south of RR crossing (CSX RR)

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		Right-of-Way Supervisor
	Printed Name	Signature	
Approved:			04 Sept 2015 KYTC, Director of ROW & Utilities
	Printed Name	Signature	
Approved:			FHWA, ROW Officer (when applicable)
	Printed Name	Signature	

Right-of-Way Certification Form

Revised 2/22/11

Date: May 12, 2015

Project Name: Widen KY 393
 Project #: 5-234.10
 Item #: _____
 Letting Date: May 30, 2015

County: OLDHAM
 Federal #: N/A

This project has 11 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*)
- _____ 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

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

UTILITIES AND RAIL CERTIFICATION NOTE

**OLDHAM COUNTY
FD04 093 77732 1U
RECONSTRUCTION OF KY 393 FROM I-71 RAMP to KY 146
SIX YEAR PLAN ITEM NUMBER 5-234.10**

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) – has a proposed pole route which runs approximately 80’ to 150’ west of, and parallel to, KY 393 or more accurately described below. **These facilities are not to be disturbed.**

LG&E (Gas) – has existing 4” gas main along the south side of Commerce Parkway, and along KY 393 from STA. 352+00 to KY 146. **These facilities are not to be disturbed.**

AT&T KY - has facilities within the disturb limits and are to be relocated prior to construction. AT&T’s proposed aerial facilities will follow the LG&E proposed pole route which runs approximately 80’ to 150’ west of, and parallel to, KY 393 or more accurately described below. **These facilities are not to be disturbed.**

Time Warner Cable - has facilities within the disturb limits and are to be relocated prior to construction. Time Warner’s proposed aerial facilities will follow the LG&E proposed pole route which runs approximately 80’ to 150’ west of, and parallel to, KY 393 or more accurately described below. **These facilities are not to be disturbed.**

Oldham County Water- has existing facilities that are to be relocated by the road contractor as part of the contract. The proposed facilities run east of KY 393 from Interstate I-71 to Buckner Crossing, thence cross KY 393 and run along Frontage Rd “B”, thence leave the project area and run, in privately acquired easements, before connecting to the existing facility along KY 146.

Oldham County Environmental Authority - has existing facilities that are to be relocated by the road contractor as part of the contract. The proposed sanitary sewer facility will be relocated to proper depths at its current location.

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

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

LG&E (Electric) - the following facilities are to be relocated prior to construction and are not to be disturbed. The aerial LG&E route crosses Interstate I-71 approximately 107’ west of KY 393 and proceeds north along KY 393 to a pole at STA. 332+10.5 83’ LT, thence continues north along the west side of KY 393 for a distance of 192’ to a pole at STA. 334+00 90’ LT, thence continues north along the west side of KY 393 for a distance of 220’ to a pole at STA. 336+18 91’ LT, thence continues north along

UTILITIES AND RAIL CERTIFICATION NOTE

**OLDHAM COUNTY
FD04 093 77732 1U
RECONSTRUCTION OF KY 393 FROM I-71 RAMP to KY 146
SIX YEAR PLAN ITEM NUMBER 5-234.10**

the west side of KY 393 for a distance of 221' to a pole at STA. 338+37 96' LT, thence continues north along the west side of KY 393 for a distance of 223' to a pole at STA. 340+25 106' LT, thence continues north along the west side of KY 393 for a distance of 20' to a pole at STA. 340+45 142' LT, thence continues north along the west side of KY 393 for a distance of 241' to a pole at STA. 342+97 87' LT, thence continues north along the west side of KY 393 for a distance of 306' to a pole at STA. 346+05 112' LT, thence continues north along the west side of KY 393 for a distance of 211' to a pole at Frontage Rd "B" STA. 148+07 16' LT, thence continues north along the west side of KY 393 for a distance of 221' to a pole at Frontage Rd "B" STA. 150+26 22' LT, thence continues north along the west side of KY 393 for a distance of 197' to a pole at Frontage Rd "B" STA. 152+28 28' LT, thence continues north along the west side of KY 393 for a distance of 206' to a pole at STA. 354+50 146' LT, thence continues north along the west side of KY 393 for a distance of 61' to a pole at STA. 355+11 146' LT. "H" beams will be set along the east side of KY 393 at STA. 342+98 116' RT, and STA. 346+25 144' RT. A service pole will be set along the west side of Frontage Rd "B" STA. 146+83 49' LT.

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

AT&T KY – has facilities within the disturb limits and are to be relocated prior to construction. AT&T's proposed aerial facilities will follow the LG&E proposed pole route which runs approximately 80' to 150' west of, and parallel to, KY 393 or more accurately described above. These facilities are to be relocated by **February 29, 2016**.

Time Warner Cable - has facilities within the disturb limits and are to be relocated prior to construction. Time Warner's proposed aerial facilities will follow the LG&E proposed pole route which runs approximately 80' to 150' west of, and parallel to, KY 393 or more accurately described above. These facilities are to be relocated by **December 31, 2015**.

LG&E (Gas) – has existing facilities that are within the disturb limits and are to be relocated prior to construction. An existing 4" gas main running east of, and parallel to, existing KY 393 from STA. 353+50 to KY 146 is to be relocated to the west side of existing KY 393 at 2' inside the right of way line from STA. 352+00 to STA. 355+70. These facilities are to be relocated by **December 31, 2015**.

Oldham County Water- has an existing pump station at STA. 342+75 and connecting 16" HDPE pipe that are to be removed by the company. These facilities are to be removed after construction of the proposed water facilities have been completed.

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 **AT&T KY**,

UTILITIES AND RAIL CERTIFICATION NOTE

**OLDHAM COUNTY
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Time Warner, LG&E (Gas) and Oldham County Water. Working days will not be charged for those days on which work on **AT&T KY, Time Warner, LG&E (Gas) and Oldham County Water** 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**

AT&T KY – has underground facilities that are to be constructed by the road contractor as included in the contract. The proposed underground duct runs perpendicular to KY 393 and begins at a proposed LG&E pole at STA. 340+44.7 107' LT, thence connects to a proposed 4'x6'x8' manhole at STA. 340+36 98' LT, thence crosses KY 393 and connects to a proposed LG&E manhole at Commerce Parkway STA. 13+11 78' RT.

Oldham County Water- has facilities that are to be constructed by the road contractor as included in the project. The proposed 12" PVC water main ties into the existing 12" PVC main at STA. 330+50 150' RT, thence continues in an easterly direction and parallel to the southbound I-71 exit ramp for approximately 100', thence turns and runs north under the southbound I-71 exit ramp (in an 18" steel casing pipe) for 130', thence continues 10' inside the proposed east right-of-way line until STA. 340+00 110' LT where the main increases to a 16 ductile iron pipe and crosses Commerce Parkway in a 30" steel casing pipe to a "T" at STA. 342+00 110' LT, thence the main continues 10' inside the proposed east right-of-way line until STA. 348+60 where the proposed 10" ductile iron water main crosses KY 393 and Frontage Road "B" in a 16" steel casing pipe. The proposed water main thence continues north along Frontage Rd "B" for approximately 210' before it "T" into multiple directions at STA. 350+76 170' LT. From the "T" at STA 350+76 170' LT, a 2" PE service line, in a 3" casing pipe, runs north along Frontage Rd "B" to STA. 355+62 130' LT. Also from the "T" at STA. 350+76, a 10" PVC water main runs west in a privately acquired easement along the Willis property (Parcel 107) for a distance of approximately 320', thence the main turns and runs north for approximately 500', thence turns and runs west for approximately 375', thence the main turns and runs north under the CSX railroad and KY 146, in an 18" steel casing pipe, for a distance of approximately 220' to a "T" at KY 146 STA. 491+50 60' LT. From the "T" at KY 146 STA. 491+50, the water main is capped to the east and connects to another "T" at KY 146 STA. 491+30 60' LT. From the "T" at KY 146 STA. 491+30 the proposed 10" water main runs south for a distance of 50' before tying into the existing 10" water main at STA. 491+30 7' LT. There is also a

UTILITIES AND RAIL CERTIFICATION NOTE

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SIX YEAR PLAN ITEM NUMBER 5-234.10**

proposed 16" ductile iron water main crossing KY 393, in a 16" steel casing pipe, from the T at STA 342+00 110' LT. The ductile iron main thence ties into an existing main running along Commerce Parkway west of KY 393.

The existing 12" water main between Interstate-71 and Commerce Parkway (STA. 330+50 and 337+07) is to be abandoned. The existing AC water main along KY 393 between STA 337+07 and STA. 358+34 is to be removed.

Oldham County Environmental Authority- has existing facilities that are to be relocated by the road contractor as part of the contract. The proposed sanitary sewer facility will be relocated to proper

depths at its current location. The existing and proposed sanitary sewer will cross KY 393 at STA. 332+48.6. Existing and proposed manholes are located at STA. 331+05.6 287.5 LT, STA. 332+51.8 117.6' LT, 332+45.5 111.5'RT, and STA 331+65.3 589.75' RT.]

THE FOLLOWING RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

- No Rail Involved** **Minimal Rail Involved (See Below)** **Rail Involved (See Below)**

C.S.X. – has facilities at the north end of the project. Oldham County Water will have relocations, as part of the roadway contract, that must be coordinated with the railroad company. A proposed 10" ductile iron water main is to be bored and jacked, in an 18" casing pipe, under the railroad and KY 146 at STA. 491+50

NOTE: See **"Waterline Specifications"** and all associated documents in proposal for details of rail involvement and contact information.

UTILITIES AND RAIL CERTIFICATION NOTE

**OLDHAM COUNTY
FD04 093 77732 1U
RECONSTRUCTION OF KY 393 FROM I-71 RAMP to KY 146
SIX YEAR PLAN ITEM NUMBER 5-234.10**

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 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.

UTILITIES AND RAIL CERTIFICATION NOTE

**OLDHAM COUNTY
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RECONSTRUCTION OF KY 393 FROM I-71 RAMP to KY 146
SIX YEAR PLAN ITEM NUMBER 5-234.10**

AREA UTILITIES CONTACT LIST

<u>Utility Company/Agency</u>	<u>Contact Information</u>
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 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 Greg Geiser work: (502) 627-3708 Greg.Geiser@LGE-KU.com
2. Louisville Water Company 550 South Third Street Louisville, KY 40202 AT&T KY 3719 Bardstown Road - 2nd Floor Louisville, KY 40218	Daniel Tegene, PE (502) 569-3649 DTegene@LWCky.com Morgan Herndon MH0831@att.com (502) 458-7312
3. Oldham County Water District 3711 W. Highway 146, P.O. Box 51 Buckner, KY 40010 This company is not a BUD participant	Russ Rose rose@oldhamcountywater.com office: (502) 222-1690 cell: (502)727-4350 Bill Baker cell: (502)773-1572
4. LaGrange Utilities Commission 203 S. Walnut St. LaGrange, KY 40031 Mid - Valley Pipeline Company 4910 Limaburg Road Burlington, KY 41005 FAX (866) 699-1185	Ted Chisholm tedchis@gmail.com (502) 222-9325 Todd Calfee (859) 371-4469x14 Cell: (859) 630-8271 RTCALFEE@SunocoLogistics.com
5. 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

UTILITIES AND RAIL CERTIFICATION NOTE

**OLDHAM COUNTY
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RECONSTRUCTION OF KY 393 FROM I-71 RAMP to KY 146
SIX YEAR PLAN ITEM NUMBER 5-234.10**

- | | |
|--|---|
| 6. Texas Gas Transmission, LLC
10327 Gaslight Way
Louisville, KY 40299 | John Weaver
John.Weaver@BWPMLP.com
(502)438-2407
Howard Menser
Howard.Menser@BWPMLP.com
Office: (502)491-0251
Cell: (502)396-2418 |
| 7. Time Warner Cable
10168 Linn Station Road
Suite 120
Louisville, KY 40223 | Deno Barbour
Cell: (502) 664-7395
Office: (502) 357-4376
Dwight.Barbour@TWCable.com |
| 8. 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 |
| 9. Metropolitan Sewer District
700 West Liberty Street
Louisville, KY 40202 | Brandon Flaherty
Brandon.Flaherty@LouisvilleMSD.org
Office: (502) 540-6632
Cell: (502) 381-0804 |
| 10. Level 3 Communications (Transmission)
848 S. 8 th St.
Louisville, KY 40203 | Send to Relocations Email
relo@level3.com |
| 11. Indiana Gas Company Inc
d.b.a. Vectren Energy Delivery of Indiana, Inc
or
Ohio River Pipeline Corporation
2520 Lincoln Drive
Clarksville, Indiana 47129
Line Maintained By
Texas Gas Transmission, LLC
3800 Frederica Street
Owensboro, KY 42302
Cell: (270) 485-1152 | Mary Barber
MBarber@Vectren.com
(812) 948-4952

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

UTILITIES AND RAIL CERTIFICATION NOTE

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SIX YEAR PLAN ITEM NUMBER 5-234.10

12. Crown Castle Network Operations
10170 Linn Station Road
Suite 525
Louisville, KY 40223
(build's 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
Cindy Shaffer
Cynthia.Shaffer@CrownCastle.com
(502) 318-1313
- Send Facility Map request only to:**
Chris Gladstone
Chris.Gladstone@CrownCastle.com
(502) 689-2162
and
Rebecca Gray
Rebecca.gray@crowncastle.com
(502) 318-1313
13. Kentucky Data Link (KDL now Windstream)
Project Manager
3701 Communications Way
Evansville, IN 47715
(Address envelopes ATTN LaDon Haley)
- John McDowell
John.McDowell@Windstream.com
(606) 369-3623
14. TRIMARC
Public Safety & Transportation Systems
901 West Main Street
Louisville, KY 40202
- Todd Hood
Todd.Hodd@ngc.com
Office: (502) 587-6624 ext. 2
Cell: (502) 307-7456

GENERAL UTILITY NOTES AND INSTRUCTIONS APPLICABLE TO ALL UTILITY WORK MADE A PART OF THE ROAD CONSTRUCTION CONTRACT

The contractor should be aware the following utility notes and KYTC Utility Bid Item Descriptions shall supersede, replace and take precedence over any and all conflicting information that may be contained in utility owner supplied specifications contained in the contract, on plans supplied by the utility owner, or any utility owner specifications or information externally referenced in this contract.

Where information may have been omitted from these notes, bid item descriptions, utility owner supplied specifications or plans; the KYTC Standard Specifications for Road and Bridge Construction shall be referenced.

PROTECTION OF EXISTING UTILITIES

The existing utilities shown on the plans are shown as best known at the time the plans were developed and are to be used as a guide only by the Contractor. The Contractor shall use all means at his disposal to accurately locate all existing utilities, whether shown on the plans or not, prior to excavation. The contractor shall protect these utilities during construction. Any damage to existing utilities during construction that are shown or not shown on the plans shall be repaired at the Contractor's expense.

PREQUALIFIED UTILITY CONTRACTORS

Some utility owners may require contractors that perform relocation work on their respective facilities as a part of the road contract be prequalified or preapproved by the utility owner. Those utility owners with a prequalification or preapproval requirement are as follows:

Oldham County Water

The bidding contractor needs to review the above list and look for a list of preapproved or prequalified contractors at the end of these general notes as identified above before bidding. Only contractors shown to be prequalified or preapproved by the utility owner on the following list(s) will be allowed to work on that utility as a part of this contract.

Any utility contractor that is not listed as prequalified or preapproved when the project is advertised for bid and wishes to be added must make request through the KYTC Contract Procurement website. The request should be made at least one week prior to the bidding deadline to allow for review and posting on the KYTC Contract Procurement website. A contractor is only considered prequalified or preapproved

when published on the KYTC Contract Procurement website. Contractors that contact the utility owner directly for preapproval or prequalification without contacting KYTC will not be considered for preapproval or prequalification for this contract. Contractors that are not prequalified or preapproved through KYTC before the bidding deadline will not be considered for prequalification or preapproval after bidding.

CONTRACT ADMINISTRATION RELATIVE TO UTILITY WORK

All utility work is being performed as a part of a contract administered by KYTC; there is not a direct contract between the utility contractor and utility owner. The KYTC Section Engineer is ultimately responsible for the administration of the road contract and any utility work included in the contract.

SUBMITTALS AND CORRESPONDENCE

All submittals and correspondence of any kind relative to utility work included in the road contract shall be directed to the KYTC Section Engineer, a copy of which may also be supplied to the utility owner by the contractor to expedite handling of items like material approvals and shop drawings. All approvals and correspondence generated by the utility owner shall be directed to the KYTC Section Engineer. The KYTC Section Engineer will relay any approvals or correspondence to the utility contractor as appropriate. At no time shall any direct communication between the utility owner and utility contractor without the communication flowing through the KYTC Section Engineer be considered official and binding under the contract.

ENGINEER

Where the word "Engineer" appears in any utility owner specifications included in this proposal, utility owner specifications included as a part of this contract by reference or on the utility relocation plans, it shall be understood the "Engineer" is the Kentucky Transportation Cabinet (KYTC) Section Engineer or designated representative and the utility owner engineer or designated representative jointly. Both engineers must mutually agree upon all decisions made with regard to the utility construction. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

INSPECTOR OR RESIDENT PROJECT REPRESENTATIVE

Where the word “Inspector” or “Resident Project Representative” appears in the utility specifications included in this proposal, utility owner specifications included as a part of this contract by reference or on the utility relocation plans, it shall be understood the “Inspector” or “Resident Project Representative” is the utility owner inspector and KYTC inspector jointly. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

NOTICE TO UTILITY OWNERS OF THE START OF WORK

One month before construction is to start on a utility, the utility contractor shall make notice to the KYTC Section Engineer and the utility owner of when work on a utility is anticipated to start. The utility contractor shall again make confirmation notice to the KYTC Section Engineer and the utility owner one week before utility work is to actually start.

UTILITY SHUTDOWNS

The Contractor shall not shut down any active and in-service mains, utility lines or services for any reason unless specifically given permission to do so by the utility owner. The opening and closing of valves and operating of other active utility facilities for main, utility line or utility service shut downs are to be performed by the utility owner unless specific permission is given to the contractor by the owner to make shutdowns. If and when the utility owner gives the contractor permission to shutdown mains, utility lines or utility services, the contractor shall do so following the rules, procedures and regulations of the utility owner. Any permission given by the utility owner to the contractor to shutdown active and in-service mains, utility lines or services shall be communicated to the KYTC Section Engineer by the utility owner that such permission has been given.

Notice to customers of utility shut downs is sometimes required to be performed by the utility contractor. The contractor may be required; but, is not limited to, making notice to utility customers in a certain minimum amount of time in advance of the shut down and by whatever means of communication specified by the utility owner. The means of communication to the customer may be; but is not limited to, a door hanger, notice by newspaper ad, telephone contact or any combination of communication methods deemed necessary, customary and appropriate by the utility owner. The contractor should refer to the utility owner specifications for requirements on customer notice.

Any procedure the utility owner may require the contractor to perform by specification or plan note and any expense the contractor may incur to comply with the utility owner’s shut down procedure and notice to customers shall be considered an incidental expense to the utility construction.

STATIONS AND DISTANCES

All stations and distances, when indicated for utility placement in utility relocation plans or specifications, are approximate; therefore, some minor adjustment may have to be made during construction to fit actual field conditions. Any changes in excess of 6 inches of plan location shall be reviewed and approved jointly by the KYTC Section Engineer or designated representative and utility owner engineer or

designated representative. Changes in location without prior approval shall be remedied by the contractor at his own expense if the unauthorized change creates an unacceptable conflict or condition.

RESTORATION

Temporary and permanent restoration of paved or stone areas due to utility construction shall be considered incidental to the utility work. No separate payment will be made for this work. Temporary restoration shall be as directed by the KYTC Section Engineer. Permanent restoration shall be “in-kind” as existing.

Restoration of seed and sod areas will be measured and paid under the appropriate seeding and sodding bid items established in the contract for roadway work.

BELOW ARE NOTES FOR WHEN “INST” ITEMS ARE IN THE CONTRACT MEANING THE UTILITY COMPANY IS PROVIDING CERTAIN MATERIALS FOR UTILITY RELOCATION

MATERIAL

Contrary to Utility Bid Item Descriptions, those bid items that have the text “**Inst**” at the end of the bid item will have the major components of the bid item provided by the utility owner. No direct payment will be made for the major material component(s) supplied by the utility company. All remaining materials required to construct the bid item as detailed in utility bid item descriptions, in utility specifications and utility plans that are made a part of this contract will be supplied by the contractor. The contractor’s bid price should reflect the difference in cost due to the provided materials.

The following utility owners have elected to provide the following materials for work under this contract:

AT&T – The Company is to provide the required 4” diameter C Plastic Conduit and two (2) 4’x6’x8’ Pre-Cast Concrete Manholes as described in the Supplementary Specifications.

SECURITY OF SUPPLIED MATERIALS

If any utility materials are to be supplied by the utility owner, it will be the responsibility of the utility contractor to secure all utility owner supplied materials after delivery to the project site. The utility contractor shall coordinate directly with the utility owner and their suppliers for delivery and security of the supplied materials. Any materials supplied by the utility owner and delivered to the construction site that are subsequently stolen, damaged or vandalized and deemed unusable shall be replaced with like materials at the contractor’s expense.

Oldham County Water Contractor List

MAC Construction & Excavating, Inc.

Contact: Cory Placek – 812-941-7895

ConnHurst, LLC

Contact: Freddie Conn – 606-286-0387

Smith

Contact: Kerry Smith – 502-839-4196

Cleary

Contact: Darren Cleary – 270-487-1784

Standard Water Bid Item Descriptions

W AIR RELEASE VALVE This bid item description shall apply to all air release valve installations of every size except those defined as “Special”. This item shall include the air release valve, main to valve connecting line or piping, manhole, vault, structure, access casting or doors, tapping the main, labor, equipment, excavation, proper backfill and restoration required to install the air release valve at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. All air release/vacuum valves on a project shall be paid under one bid item regardless of size. No separate pay items will be established for size variations. Only in the case of the uniqueness of a particular air release valve would a separate bid item be established. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

BOLLARDS This item is for payment for furnishing and installing protective guard posts at above ground utility installations. A bollard may consist of, but not limited to, a steel post set in concrete or any other substantial post material. This item shall include all labor, equipment, and materials needed for complete installation of the bollard as specified by the utility owner specifications and plans. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

NOTE: A bid code for this item has been established in standard roadway bid items and shall be used for payment of this item. The bid code is 21341ND

W CAP EXISTING MAIN This item shall include the specified cap, concrete blocking and/or mechanical anchoring, labor, equipment, excavation, backfill, and restoration required to install the cap at the location shown on the plans or as directed in accordance with the specifications. This item is not to be paid on new main installations. This pay item is only to be paid to cap existing mains. Caps on new mains are incidental to the new main. Any and all caps on existing mains shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W DIRECTIONAL BORE Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized in order to minimize the impact of open cut for the installation of water main under streets, creeks, and etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at each end of the bore when specified to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract regardless of size. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASUREMENT CONCRETE Includes all labor, equipment, excavation, concrete, reinforcing steel, backfill, restoration, and etc., to construct the concrete encasement of the water main as shown on the plans, and in accordance with the specifications and standard drawings. Payment under this item shall be in addition to the carrier pipe as paid under separate bid items. Carrier pipe is not included in this bid item. Any and all concrete encasement shall be paid under one bid item included in the contract regardless of the size of the carrier pipe or the volume of concrete or steel reinforcement as specified in the plans and specifications. No separate bid items will be established for size variations. Measurement of pay quantity shall be from end of concrete to end of concrete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASUREMENT STEEL BORED This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to bore and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The sizes of encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASUREMENT STEEL OPEN CUT This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to open cut and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The size encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W FIRE HYDRANT ADJUST Includes all labor, equipment, excavation, materials, and backfill to adjust the existing fire hydrant using the fire hydrant manufacturer's extension kit for adjustments of 18" or less. Adjustments greater than 18" require anchoring couplings and vertical bends to adjust to grade. The Contractor will supply and install all anchor couplings, bends, fire hydrant extension, concrete blocking, restoration, granular drainage material, etc, needed to adjust the fire hydrant complete and ready for use as shown on the plans, and in accordance with the specifications and standard drawings. This also includes allowing for the utility owner inspector to inspect the existing fire hydrant prior to adjusting, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete and ready for use.

W FIRE HYDRANT ASSEMBLY Includes all labor, equipment, new fire hydrant, isolating valve and valve box, concrete pad around valve box (when specified in specifications or plans), piping, anchoring tee, anchoring couplings, fire hydrant extension, excavation, concrete blocking, granular drainage material, backfill, and restoration, to install a new fire hydrant assembly as indicated on plans and on standard drawings complete and ready for use. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FIRE HYDRANT RELOCATE This item includes all labor and equipment to remove the existing fire hydrant from its existing location and reinstalling at a new location. This item shall include a new isolating valve and valve box, concrete pad around valve box (when required in specifications or plans), new piping, new anchoring tee, anchoring couplings, fire hydrant extensions, concrete blocking, restoration, granular drainage material, excavation, and backfill as indicated on plans, specifications, and on standard drawings complete and ready for use. This item shall also include allowing for utility owner inspector to inspect the existing fire hydrant prior to reuse, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant for use, if the existing fire hydrant is determined unfit for reuse. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FIRE HYDRANT REMOVE This bid item includes removal of an abandoned fire hydrant, isolating valve, and valve box to the satisfaction of the engineer. The removed fire hydrant, isolating valve and valve box shall become the property of the contractor for his disposal as salvage or scrap. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FLUSH HYDRANT ASSEMBLY This item shall include the flushing hydrant assembly, service line, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the flush hydrant at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FLUSHING ASSEMBLY This item shall include the flushing device assembly, service line, meter box and lid, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the

flushing device at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W LINE MARKER This item is for payment for furnishing and installing a ground level water utility line marker as specified by the utility owner specifications and plans. A line marker may consist of a post or monument of whatever materials specified and shall include markings and/or signage on same as specified by plans or specifications. This item shall include all labor, equipment, and materials needed for complete installation of the marker. This item shall be paid EACH (EA) when complete.

W MAIN POINT RELOCATE This item is intended for payment for horizontal and/or vertical relocation of a short length of an existing main at the locations shown on the plans. This bid item is to be used to relocate an existing water main at point locations such as to clear a conflict at a proposed drainage structure, pipe or any other similar short relocation situation, and where the existing pipe material is to be reused. The contractor shall provide any additional pipe or fitting material needed to complete the work as shown on the plans and specifications. The materials provided shall be of the same type and specification as those that exist. Substitution of alternative materials shall be approved by the engineer in advance on a case by case basis. New polyethylene wrap is to be provided (if wrap exists or is specified in the specifications to be used). If it is necessary that the pipe be disassembled for relay, payment under this item shall also include replacement of joint gaskets as needed. Bedding and backfill shall be provided and performed the same as with any other pipe installation as detailed in the plans and specifications. Payment under this item shall be for each location requiring an existing main to be relocated horizontally or vertically regardless of pipe size or relocation length. No separate pay items will be established for pipe size variations or relocation segment length variations. Water Main Relocate shall not be paid on a linear feet basis; but, shall be Paid EACH (EA) at each location when complete and placed in service. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

W METER This item is for payment for installation of all standard water meters of all sizes 2 inches ID or less as specified on the plans. This item shall include all labor, equipment, meter, meter box, casting, yoke, and any other associated material needed for installation of a functioning water meter in accordance with the plans and specifications, complete and ready for use. This item shall include connections to the new or existing water service line. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER ADJUST This item includes all labor, equipment, excavation, materials, backfill, restoration, and etc., to adjust the meter casting to finished grade (whatever size exists) at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER RELOCATE This item includes all labor, equipment, excavation, additional fittings, disinfection, testing, restoration, and etc., to relocate the existing water meter (whatever size exists), meter yoke, meter box, casting, and etc., from its old location to the location shown on the plans or as directed, in accordance with the specifications and standard drawings complete and ready for use. The new service pipe (if required) will be paid under short side or long side service bid items. Any and all meter

relocations of 2 inches or less shall be paid under one bid item included in the contract regardless of size. Each individual relocation shall be paid individually under this item; however, no separate bid items will be established for meter size variations of 2 inches ID or less. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER VAULT SIZE RANGE 1 OR 2 This item is for payment for installation of an underground structure for housing of a larger water meter, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s) valve(s), all piping, and fitting materials associated with installing a functioning meter and vault in accordance with the plans, standard drawings, and specifications, complete and ready for use. The size shall be the measured internal diameter of the meter and piping to be installed. The size meter vault to be paid under size 1 or 2 shall be as follows:

Size Range 1 = All meter and piping sizes greater than 2 inches up to and including 6 inches
Size Range 2 = All meter and piping sizes greater than 6 inches

This item shall be paid EACH (EA) when complete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

W METER/FIRE SERVICE COMBO VAULT This item is for payment for installation of an underground structure for housing of a water meter and fire service piping, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s), valve(s), all piping, and fitting materials associated with installing a functioning meter and fire service vault in accordance with the plans and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER WITH PRESSURE REDUCING VALVE (PRV) This item is for payment for installation of all standard water meters with pressure reducing valves (PRV) of all sizes 2 inches ID or less as specified on the plans. This item shall include all labor, equipment, meter, PRV, meter box, casting, yoke, and any other associated material needed for installation of a functioning water meter with PRV in accordance with the plans and specifications, complete and ready for use. This item shall include connections to the new or existing water service line. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W PIPE This description shall apply to all PVC, ductile iron, and polyethylene/plastic pipe bid items of every size and type to be used as water main, except those bid items defined as "Special". This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, backfill, and etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item includes material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. This item shall also include pipe anchors, at each end of polyethylene pipe runs when

specified to prevent the creep or contraction of the pipe. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W PLUG EXISTING MAIN This item shall include the specified plug, concrete blocking and/or anchoring, labor, equipment, excavation, backfill, and restoration required to install the plug in an existing in-service main that is to remain at the location shown on the plans or as directed in accordance with the specifications. Any and all plugs on all existing in-service mains shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

NOTE: This utility bid item is not to be paid on new main installations or abandoned mains. This pay item is to plug existing in-service mains only. Plugs on new mains are incidental to the new main just like all other fittings.

NOTE: Plugging of existing abandon mains shall be performed and paid in accordance with Section 708.03.05 of KYTC Standard Specifications For Road And Bridge Construction and paid using Bid Code 01314 Plug Pipe.

W PRESSURE REDUCING VALVE This description shall apply to all pressure reducing valves (PRV) of every size required in the plans and specifications except those bid items defined as "Special". Payment under this description is to be for PRVs being installed with new main. This item includes the PRV as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), pit or vault, backfill, restoration, testing, disinfection, and etc., required to install the specified PRV at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, PRVs shall be restrained. PRV restraint shall be considered incidental to the PRV and adjoining pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W PUMP STATION This item is for payment for installation of pumps and an above or below ground structure for housing of the pumps. This item shall include all pumps, piping, fittings, valves, electrical components, building materials, concrete, any other appurtenances, labor, equipment, excavation, and backfill, to complete the pump station installation as required by the plans, standard drawings, and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LUMP SUM (LS) when complete.

W REMOVE TRANSITE (AC) PIPE This item shall include all labor, equipment, and materials needed for removal and disposal of the pipe as hazardous material. All work shall be performed by trained and certified personnel in accordance with all environmental laws and regulations. Any and all transite AC pipe removed shall be paid under one bid item included in the contract regardless

of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W SERVICE LONG SIDE This bid item description shall apply to all service line installations of every size bid up to and including 2 inch inside diameter, except those service bid items defined as "Special". This item includes the specified piping material, main tap, tapping saddle (if required), and corporation stop materials, coupling for connecting the new piping to the surviving existing piping, encasement of 2 inches or less internal diameter (if required by plan or specification), labor, equipment, excavation, backfill, testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service installations where the ends of the service connection are on opposite sides of the public roadway and the service line crosses the centerline of the public roadway as shown on the plans. The length of the service line is not to be specified. Payment under this item shall not be restricted by a minimum or maximum length. The contractor shall draw his own conclusions as to the length of piping that may be needed. Payment under this item shall include boring, jacking, or excavating across the public roadway for placement. Placement of a service across a private residential or commercial entrance alone shall not be reason to make payment under this item. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for special bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W SERVICE SHORT SIDE This bid item description shall apply to all service line installations of every size up to and including 2 inch internal diameter, except those service bid items defined as "Special". This item includes installation of the specified piping material of the size specified on plans, encasement of 2 inches or less internal diameter (if required by plan or specification), main tap, tapping saddle (if required), corporation stop, coupling for connecting the new piping to the surviving existing piping, labor, equipment, excavation, backfill, testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service installations where both ends of the service connection are on the same side of the public roadway, or when an existing service crossing a public roadway will remain and is being extended, reconnected, or relocated with all work on one side of the public roadway centerline as shown on the plans. The length of the service line is not to be specified and shall not be restricted to any minimum or maximum length. Payment shall be made under this item even if the service crosses a private residential or commercial entrance; but, not a public roadway. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. The contractor shall draw his own conclusions as to the length of piping that may be needed. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W SERVICE RELOCATE This item is for the relocation of an existing water service line where a meter is not involved, and where an existing service line can easily be adjusted by excavating alongside and moving the line horizontally and/or vertically a short distance without cutting the service line to avoid conflicts with road construction. This item shall include excavation, labor, equipment, bedding, and

backfill to relocate the line in accordance with the plans and specifications complete and ready for use. Payment under this item shall be for each location requiring relocation. Payment shall be made under this item regardless of service size or relocation length. No separate pay items will be established for size or length variation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W STRUCTURE ABANDONMENT This item is to be used to pay for abandonment of larger above or below ground water structures such as meter vaults, fire pits, pump stations, tanks, and etc. Payment under this time shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to water construction, (i.e., abandonment of standard water meters up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted fill or flowable fill for abandonment of the structure in place and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W STRUCTURE REMOVAL This item is to be used to pay for removal of larger above or below ground water structures such as meter vaults, fire pits, pump stations, tanks, and etc. Payment under this time shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to water construction, (i.e., removal of standard water meters up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted backfill for removal of the structure and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W TAPPING SLEVE AND VALVE SIZE 1 OR 2 This item shall include the specified tapping sleeve, valve, valve box, concrete pad around valve box (when required in specifications or plans), labor, and equipment to install the specified tapping sleeve and valve, complete and ready for use in accordance with the plans and specifications. The size shall be the measured internal diameter of the live pipe to be tapped. The size tapping sleeve and valve to be paid under sizes 1 or 2 shall be as follows:

- Size 1 = All live tapped main sizes up to and including 8 inches
- Size 2 = All live tapped main sizes greater than 8 inches

Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W TIE-IN This bid description shall be used for all main tie-in bid items of every size except those defined as "Special". This item includes all labor, equipment, excavation, fittings, sleeves, reducers, couplings, blocking, anchoring, restoration, disinfection, testing and backfill required to make the water main tie-in as shown on the plans, and in accordance with the specifications complete and ready for use. Pipe for tie-ins shall be paid under separate bid items. This item shall be paid EACH (EA) when complete.

W VALVE This description shall apply to all valves of every size required in the plans and specifications

except those bid items defined as “Special”. Payment under this description is to be for gate or butterfly valves being installed with new main. This item includes the valve as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), valve box and valve stem extensions, backfill, concrete pad around valve box (if required by specification), restoration, testing, disinfection, and etc., required to install the specified valve at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, valves shall be restrained. Valve restraint shall be considered incidental to the valve and adjoining pipe. This description does not apply to cut-in valves. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE ANCHOR EXISTING This bid item is intended to pay for installation of restraint hardware on an existing valve where no restraint exists to hold the valve in place to facilitate tie-ins and other procedures where restraint is prudent. This work shall be performed in accordance with water specifications and plans. This bid item shall include all labor equipment, excavation, materials and backfill to complete restraint of the designated valve, regardless of size, at the location shown on the plans, complete and ready for use. Materials to be provided may include, but is not limited to, retainer glands, lugs, threaded rod, concrete, reinforcing steel or any other material needed to complete the restraint. Should the associated valve box require removal to complete the restraint, the contractor shall reinstall the existing valve box, the cost of which shall be considered incidental to this bid item. No separate bid items are being provided for size variations. All sizes shall be paid under one bid item. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE BOX ADJUST Includes all labor, equipment, valve box and valve stem extensions (if required), excavation, backfill, concrete pad around valve box (when specified in specifications or plans), restoration, and etc., to adjust the top of the box to finished grade complete and ready for use. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE CUT-IN This bid description is for new cut-in valve installations of all sizes where installation is accomplished by cutting out a section of existing main. This item shall include cutting the existing pipe, supplying the specified valve, couplings or sleeves, valve box, concrete pad around valve box (when required in specifications or plans), labor, equipment, and materials to install the valve at the locations shown on the plans, or as directed by the engineer, complete and ready for use. Any pipe required for installation shall be cut from that pipe removed or supplied new by the contractor. No separate payment will be made for pipe required for cut-in valve installation. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE VAULT This item is for payment for installation of an underground structure for housing of specific valve(s) as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or doors, the specified valve(s), all piping, and fitting materials associated with installing a functioning valve vault in accordance with the plans, standard drawing, and specifications, complete and ready for use. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

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 393 SECTION "A" (FROM I-71
TO BUCKNER CROSSINGS
ACCESS ROAD)**

Water Utility Relocation

La Grange, KY

**KYTC Item No. 5-234.10
GRW Project No. 3670**

OCTOBER 2015

BID SET

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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 unclassified.

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 CAP EXISTING WATER MAIN

- A. Payment for capping existing water main shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

1.4 WATER DIRECTIONAL BORE

- A. Payment for directional bore shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

- 1.5 WATER ENCASUREMENT SPECIAL (CASING PIPE BORED AND JACKED BENEATH CSX RAILROAD)
 - A. The steel casing pipe required to be bored and/or jacked beneath CSX railroad 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, CSX Inspector and Flagger, and all other items necessary for its construction as shown on the Drawings and/or described in the Specifications.
 - B. Carrier piping shall be paid for under a separate pay item.

- 1.6 WATER ENCASUREMENT STEEL BORED
 - A. Payment for steel encasement bore shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

- 1.7 WATER FIRE HYDRANT ASSEMBLY
 - A. Payment for water fire hydrant assembly shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

- 1.8 WATER FLUSH HYDRANT ASSEMBLY
 - A. Payment for water flush hydrant assembly shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

- 1.9 WATER METER RELOCATE
 - A. Payment for relocation of an existing service meter shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

- 1.10 WATER PIPE
 - A. Payment for water pipe shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.
 - B. Installation of concrete thrust block shall be included as part of this pay item and considered incidental to the installation of the water pipe.

- 1.11 WATER REMOVE TRANSITE (AC) PIPE
 - A. Payment for removal of transite (AC) pipe shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

1.12 WATER SERVICE LONG SIDE

- A. Payment for customer service installation across the centerline of a public roadway shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

1.13 WATER SERVICE SHORT SIDE

- A. Payment for customer service installation not crossing the centerline of a public roadway shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

1.14 WATER TAPPING SLEEVE AND VALVE

- A. Payment for connections to existing water mains using a tapping sleeve and valve shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

1.15 WATER VALVES

- A. Payment for water valves shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10

1.16 WATER VALVES SPECIAL (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 (include concrete and asphalt pavement replacement), and all other installation requirements necessary to complete the insertion valve.

1.17 WATER TIE-IN

- A. Payment for connection to existing water mains shall be as described in the KYTC Standardized Water Bid Descriptions; Section 012213.10.

1.18 RAIL ROAD COORDINATION

- A. Payment for rail road coordination will be made at the respective contract unit price lump sum, which price shall include compensation for coordinating the rail road flagger and inspector. The Owner has previously obtained the Liability Insurance policy and executed an Agreement with the CSX Railroad. The Contractor shall be responsible for coordinating the previously executed permits, insurance, and agreements that have been made available and are on the project site. The Contractor shall include in his bid price the cost for providing the CSX Rail Road flagger

and CSX Inspector. Instructions can be found in the Rail Road Permit; Section 330523.10.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 012213



TRANSPORTATION CABINET

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

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

DESIGN MEMORANDUM NO. 02-15
CONSTRUCTION MEMORANDUM NO. CM 15-04
MAINTENANCE MEMORANDUM NO. 02-15
UTILITIES MEMORANDUM NO. 01-15

TO: Chief District Engineers
Project Development Branch Managers
Design Engineers
Design Consultants
District Utility Supervisors

FROM: Steve Waddle, P.E. *SKW*
State Highway Engineer, Department of Highways

DATE: June 30, 2015

SUBJECT: Standardized Bid Codes
Utility Relocations Incorporated Into Highway Project Bid Package

The Kentucky Transportation Cabinet prefers that utility relocation be incorporated into our highway construction contracts. Staff and consultants, representing the Cabinet are hereby directed to encourage utility companies to include their relocation work with our construction projects.

When successful in utilizing this methodology, the project plans and proposal must include the utility relocation plans, utility company supplied specifications, utility company approved subcontractors (if applicable), and a listing of utility line items and accompanying bid codes. Policies and procedures for including the utility relocation in the road construction project plans are defined in the KYTC Utility and Rail Manual, Chapter UR-1700. Supplementary to this defined procedure are the attached standardized bid codes and descriptions. These codes have been allocated for utility work included in road project bids. This list of bid codes includes items associated with water, sewer, gas, communication, and electric facility installation.

Effective September 25, 2015, all KYTC projects that include utility relocation work shall use the bid codes as defined. Any bid items that do not readily belong to a code on the standard bid code lists attached should be addressed as follows:

- Validate that the bid item in question is not incidental to a standardized code.
- Validate that the bid item cannot be listed as a 'special' item as described in the attachment for special bid items.



In instances that a potential bid item is still not addressed, a new code may be requested from the Division of Construction Procurement.

The utility bid codes provided shall not be amended on a project by project basis but utility companies are encouraged to provide supplementary specifications that complement or otherwise enhance the KYTC Standard Specifications.

<http://transportation.ky.gov/Organizational-Resources/Policy%20Manuals%20Library/Utilities%20and%20Rails.pdf>

KYTC Standardized Water Bid Descriptions

W AIR RELEASE VALVE This bid item description shall apply to all air release valve installations of every size except those defined as "Special". This item shall include the air release valve, main to valve connecting line or piping, manhole, vault, structure, access casting or doors, tapping the main, labor, equipment, excavation, proper backfill and restoration required to install the air release valve at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. All air release/vacuum valves on a project shall be paid under one bid item regardless of size. No separate pay items will be established for size variations. Only in the case of the uniqueness of a particular air release valve would a separate bid item be established. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W CAP EXISTING MAIN This item shall include the specified cap, concrete blocking and/or mechanical anchoring, labor, equipment, excavation, backfill, and restoration required to install the cap at the location shown on the plans or as directed in accordance with the specifications. This item is not to be paid on new main installations. This pay item is only to be paid to cap existing mains. Caps on new mains are incidental to the new main. Any and all caps on existing mains shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W DIRECTIONAL BORE Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized in order to minimize the impact of open cut for the installation of water main under streets, creeks, etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at each end of the bore when specified to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract regardless of size. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF)

W ENCASEMENT CONCRETE Includes all labor, equipment, excavation, concrete, reinforcing steel, backfill, restoration, etc. to construct the concrete encasement of the water main as shown on the plans, and in accordance with the specifications and standard drawings. Payment under this item shall be in addition to the carrier pipe as paid under separate bid items. Carrier pipe is not included in this bid item. Any and all concrete encasement shall be paid under one bid item included in the contract regardless of the size of the carrier pipe or the volume of concrete or steel reinforcement as specified in the plans and specifications. No separate bid items will be established for size variations. Measurement of pay quantity shall be from end of concrete to end of concrete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF) when complete.

W ENCASUREMENT STEEL BORED This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to bore and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The sizes of encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF)

W ENCASUREMENT STEEL OPEN CUT This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to open cut and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The size encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF)

W FIRE HYDRANT ADJUST Includes all labor, equipment, excavation, materials, and backfill to adjust the existing fire hydrant using the fire hydrant manufacturer's extension kit for adjustments of 18" or less. Adjustments greater than 18" require anchoring couplings and vertical bends to adjust to grade. The Contractor will supply and install all anchor couplings, bends, fire hydrant extension, concrete blocking, restoration, granular drainage material, etc, needed to adjust the fire hydrant complete and ready for use as shown on the plans, and in accordance with the specifications and standard drawings. This also includes allowing for the utility owner inspector to inspect the existing fire hydrant prior to adjusting, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete and ready for use.

W FIRE HYDRANT ASSEMBLY Includes all labor, equipment, new fire hydrant, isolating valve and valve box, concrete pad around valve box (when specified in specifications or plans), piping, anchoring tee, anchoring couplings, fire hydrant extension, excavation, concrete blocking, granular drainage material, backfill, and restoration, to install a new fire hydrant assembly as indicated on plans and on standard drawings complete and ready for use. No additional payment will be made for rock excavation. -Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W FIRE HYDRANT RELOCATE This item includes all labor and equipment to remove the existing fire hydrant from its existing location and reinstalling at a new location. This item shall include a new isolating valve and valve box, concrete pad around valve box (when required in specifications or plans), new piping, new anchoring tee, anchoring couplings, fire hydrant extensions, concrete blocking, restoration, granular drainage material, excavation, and backfill as indicated on plans, specifications, and on standard drawings complete and ready for use. This item shall also include allowing for utility owner inspector to inspect the existing fire hydrant prior to reuse, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant for use, if the existing fire hydrant is determined unfit for reuse. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W FIRE HYDRANT REMOVE This bid item includes removal of an abandoned fire hydrant, isolating valve, and valve box to the satisfaction of the engineer. The removed fire hydrant, isolating valve and valve box shall become the property of the contractor for his disposal as salvage or scrap. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W FLUSH HYDRANT ASSEMBLY This item shall include the flushing hydrant assembly, service line, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the flush hydrant at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W FLUSHING ASSEMBLY This item shall include the flushing device assembly, service line, meter box and lid, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the flushing device at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W MAIN POINT RELOCATE This item is intended for payment for horizontal and/or vertical relocation of a short length of an existing main at the locations shown on the plans. This bid item is to be used to relocate an existing water main at point locations such as to clear a conflict at a proposed drainage structure, pipe or any other similar short relocation situation, and where the existing pipe material is to be reused. The contractor shall provide any additional pipe or fitting material needed to complete the work as shown on the plans and specifications. The materials provided shall be of the same type and specification as those that exist. Substitution of alternative materials shall be approved by the engineer in advance on a case by case basis. New polyethylene wrap is to be provided (if wrap exists or is specified in the specifications to be used). If it is necessary that the pipe be disassembled for relay, payment under this item shall

also include replacement of joint gaskets as needed. Bedding and backfill shall be provided and performed the same as with any other pipe installation as detailed in the plans and specifications. Payment under this item shall be for each location requiring an existing main to be relocated horizontally or vertically regardless of pipe size or relocation length. No separate pay items will be established for pipe size variations or relocation segment length variations. Water Main Relocate shall not be paid on a linear feet basis; but, shall be Paid EACH (EA) at each location when complete and placed in service. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

W METER This item is for payment for installation of all standard water meters of all sizes 2 inches ID or less as specified on the plans. This item shall include all labor, equipment, meter, meter box, casting, yoke, and any other associated material needed for installation of a functioning water meter in accordance with the plans and specifications, complete and ready for use. This item shall include connections to the new or existing water service line. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item paid EACH (EA) when complete.

W METER ADJUST This item includes all labor, equipment, excavation, materials, backfill, restoration, etc. to adjust the meter casting to finished grade (whatever size exists) at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W METER RELOCATE This item includes all labor, equipment, excavation, additional fittings, disinfection, testing, restoration, etc. to relocate the existing water meter (whatever size exists), meter yoke, meter box, casting, etc. from its old location to the location shown on the plans or as directed, in accordance with the specifications and standard drawings complete and ready for use. The required new service pipe (if required) will be paid under short side or long side service bid items. Any and all meter relocations of 2 inches or less shall be paid under one bid item included in the contract regardless of size. Each individual relocation shall be paid individually under this item; however, no separate bid items will be established for meter size variations of 2 inches ID or less. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W METER VAULT SIZE RANGE 1 OR 2 This item is for payment for installation of an underground structure for housing of a larger water meter, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s) valve(s), all piping, and fitting materials associated with installing a functioning meter and vault in accordance with the plans, standard drawings, and specifications, complete and ready for use. The size shall be the measured internal diameter of the meter and piping to be installed. The size meter vault to be paid under size 1 or 2 shall be as follows:

Size Range 1 = All meter and piping sizes greater than 2 inches up to and including 6 inches

Size Range 2 = All meter and piping sizes greater than 6 inches This item shall be paid EACH (EA) when complete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

W METER/FIRE SERVICE COMBO VAULT This item is for payment for installation of an underground structure for housing of a water meter and fire service piping, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s), valve(s), all piping, and fitting materials associated with installing a functioning meter and fire service vault in accordance with the plans and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W PIPE This description shall apply to all PVC, ductile (dctl) iron, and polyethylene/plastic pipe bid items of every size and type to be used as water main, except those bid items defined as "Special". This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, backfill, etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item includes material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. This item shall also include pipe anchors, at each end of polyethylene pipe runs when specified to prevent the creep or contraction of the pipe. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF)

W PLUG EXISTING MAIN This item shall include the specified plug, concrete blocking and/or anchoring, labor, equipment, excavation, backfill, and restoration required to install the plug at the location shown on the plans or as directed in accordance with the specifications. This item is not to be paid on new main installations. This pay item is to plug existing mains only. Plugs on new mains are incidental. Any and all plugs on all existing mains shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W PUMP STATION This item is for payment for installation of pumps and an above or below ground structure for housing of the pumps. This item shall include all pumps, piping, fittings, valves, electrical components, building materials, concrete, any other appurtenances, labor, equipment, excavation, and backfill, to complete the pump station installation as required by the plans, standard drawings, and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LUMP SUM (LS) when complete.

W REMOVE TRANSITE (AC) PIPE This item shall include all labor, equipment, and materials needed for removal and disposal of the pipe as hazardous material. All work shall be performed by trained and certified personnel in accordance with all environmental laws and regulations. Any and all transite AC pipe removed shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF)

W SERVICE LONG SIDE This bid item description shall apply to all service line installations of every size bid up to and including 2 inch inside diameter, except those service bid items defined as "Special". This item includes the specified piping material, main tap, tapping saddle (if required), and corporation stop materials, coupling for connecting the new piping to the surviving existing piping, encasement of 2 inches or less internal diameter (if required by plan or specification), labor, equipment, excavation, backfill, testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service installations where the ends of the service connection are on opposite sides of the public roadway and the service line crosses the centerline of the public roadway as shown on the plans. The length of the service line is not to be specified. Payment under this item shall not be restricted by a minimum or maximum length. The contractor shall draw his own conclusions as to the length of piping that may be needed. Payment under this item shall include boring, jacking, or excavating across the public roadway for placement. Placement of a service across a private residential or commercial entrance alone shall not be reason to make payment under this item. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for special bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W SERVICE SHORT SIDE This bid item description shall apply to all service line installations of every size up to and including 2 inch internal diameter, except those service bid items defined as "Special". This item includes installation of the specified piping material of the size specified on plans, encasement of 2 inches or less internal diameter (if required by plan or specification), main tap, tapping saddle (if required), corporation stop, coupling for connecting the new piping to the surviving existing piping, labor, equipment, excavation, backfill, testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service installations where both ends of the service connection are on the same side of the public roadway, or when an existing service crossing a public roadway will remain and is being extended, reconnected, or relocated with all work on one side of the public roadway centerline as shown on the plans. The length of the service line is not to be specified and shall not be restricted to any minimum or maximum length. Payment shall be made under this item even if the service crosses a private residential or commercial entrance; but, not a public roadway. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. The contractor shall draw his own conclusions as to the length of piping that may be needed. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W SERVICE RELOCATE This item is for the relocation of an existing water service line where a meter is not involved, and where an existing service line can easily be adjusted by excavating alongside and moving the line horizontally and/or vertically a short distance without cutting the service line to avoid conflicts with road construction. This item shall include excavation, labor, equipment, bedding, and backfill to relocate the line in accordance with the plans and specifications complete and ready for use. Payment under this item shall be for each location requiring relocation. Payment shall be made under this item regardless of service size or relocation length. No separate pay items will be established for size or length variation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W STRUCTURE ABANDONMENT This item is to be used to pay for abandonment of larger above or below ground water structures such as meter vaults, fire pits, pump stations, tanks, etc. Payment under this time shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to water construction. (i.e. abandonment of standard water meters up to and including 2 inches would not be paid under this item.) Payment under this item shall include all labor, equipment, and compacted fill or flowable fill for abandonment of the structure in place and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W STRUCTURE REMOVAL This item is to be used to pay for removal of larger above or below ground water structures such as meter vaults, fire pits, pump stations, tanks, etc. Payment under this time shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to water construction. (i.e. removal of standard water meters up to and including 2 inches would not be paid under this item.) Payment under this item shall include all labor, equipment, and compacted backfill for removal of the structure and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W TAPPING SLEVE AND VALVE SIZE 1, OR 2 This item shall include the specified tapping sleeve, valve, valve box, concrete pad around valve box (when required in specifications or plans), labor, and equipment to install the specified tapping sleeve and valve, complete and ready for use in accordance with the plans and specifications. The size shall be the measured internal diameter of the live pipe to be tapped. The size tapping sleeve and valve to be paid under sizes 1 or 2 shall be as follows:

Size 1 = All live tapped main sizes up to and including 8 inches

Size 2 = All live tapped main sizes greater than 8 inches

Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W TIE-IN This bid description shall be used for all main tie-in bid items of every size except those defined as "Special". This item includes all labor, equipment, excavation, fittings, sleeves, reducers, couplings, blocking, anchoring, restoration, disinfection, testing and backfill required to make the water main tie-in as shown on the plans, and in accordance with the specifications complete and ready for use. Pipe for tie-ins shall be paid under separate bid items. Paid EACH (EA) when complete.

W VALVE This description shall apply to all valves of every size required in the plans and specifications except those bid items defined as "Special". Payment under this description is to be for gate or butterfly valves being installed with new main. This item includes the valve as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), valve box and valve stem extensions, backfill, concrete pad around valve box (if required by specification), restoration, testing, disinfection, etc. required to install the specified valve at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, valves shall be restrained. Valve restraint shall be considered incidental to the valve and adjoining pipe. This description does not apply to cut-in valves. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W VALVE ANCHOR EXISTING This bid item is intended to pay for installation of restraint hardware on an existing valve where no restraint exists to hold the valve in place to facilitate tie-ins and other procedures where restraint is prudent. This work shall be performed in accordance with water specifications and plans. This bid item shall include all labor equipment, excavation, materials and backfill to complete restraint of the designated valve, regardless of size, at the location shown on the plans, complete and ready for use. Materials to be provided may include, but is not limited to, retainer glands, lugs, threaded rod, concrete, reinforcing steel or any other material needed to complete the restraint. Should the associated valve box require removal to complete the restraint, the contractor shall reinstall the existing valve box, the cost of which shall be considered incidental to this bid item. No separate bid items are being provided for size variations. All sizes shall be paid under one bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W VALVE BOX ADJUST Includes all labor, equipment, valve box and valve stem extensions (if required), excavation, backfill, concrete pad around valve box (when specified in specifications or plans), restoration, etc. to adjust the top of the box to finished grade complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W VALVE CUT-IN This bid description is for new cut-in valve installations of all sizes where installation is accomplished by cutting out a section of existing main. This item shall include cutting the existing pipe, supplying the specified valve, couplings or sleeves, valve box, concrete pad around valve box (when required in specifications or plans), labor, equipment, and materials to install the valve at the locations shown on the plans, or as directed by the engineer, complete and ready for use. Any pipe required for installation shall be cut from that pipe removed or supplied new by the contractor. No separate payment will be made for pipe required for cut-in valve installation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE VAULT This item is for payment for installation of an underground structure for housing of specific valve(s) as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or doors, the specified valve(s), all piping, and fitting materials associated with installing a functioning valve vault in accordance with the plans, standard drawing, and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

KYTC Water Special Utility Bid Item Descriptions

W AIR RELEASE VALVE SPECIAL This item is to be used for those air release valve installations that are unique in type, scope, size, and/or feature and were an appropriate bid item is not otherwise established. The water main relocation designer shall provide the description for this item on a project by project basis. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W ENCASEMENT SPECIAL This item is to be used for those encasement installations that are unique in scope and/or size and where an appropriate bid item is not otherwise established. The sanitary sewer relocation designer shall provide the description for this item on a project by project basis. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid Linear Feet (LF).

W PIPE DUCTILE IRON SPECIAL This item is to be used for those ductile iron pipe installations that are unique in scope and/or size and where an appropriate bid item is not otherwise established. The water main relocation designer shall provide the description for this item on a project by project basis. This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, backfill, etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item shall also include material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF)

W PIPE POLYETHELENE/PLASTIC SPECIAL This item is to be used for those Polyethylene/Plastic pipe installations that are unique in scope and/or size and were an appropriate bid item is not otherwise established. The water main relocation designer shall provide the description for this item on a project by project basis. This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, backfill, etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item shall include material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. This item shall also include pipe

anchors, at each end of polyethylene pipe runs when specified to prevent the creep or contraction of the pipe. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF).

W PIPE PVC SPECIAL *This item is to be used for those PVC pipe installations that are unique in scope and/or size and were an appropriate bid item is not otherwise established. The water main relocation designer shall provide the description for this item on a project by project basis.* This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, backfill, etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item shall also include material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF)

W SERVICE SPECIAL *This item is to be used for those service line installations that are unique in scope and/or size and were an appropriate bid item is not otherwise established. The water main relocation designer shall provide the description for this item on a project by project basis.* Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W TIE-IN SPECIAL *This item is to be used for those main tie-in installations that are unique in scope and/or size and were an appropriate bid item is not otherwise established. The water main relocation designer shall provide the description for this item on a project by project basis.* Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W VALVE SPECIAL *This item is to be used for those valve installations that are unique in type of valve, scope, and/or size and were an appropriate bid item is not otherwise established. The water main relocation designer shall provide the description for this item on a project by project basis.* Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

W VAULT SPECIAL *This item is to be used for those underground vault installations that are unique in type, scope and/or size and were an appropriate bid item is not otherwise established. The water main relocation designer shall provide the description for this item on a project by project basis.* Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

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. Upon completion of the review process, Contractor shall print three (3) copies of complete submittal, including transmittal cover page and stamp page, and deliver to Engineer.
- 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 1.1 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 manufacturer's 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. 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 submittal 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. Upon review and close-out of a submittal, Contractor shall print three (3) copies of complete submittal, including transmittal cover page and stamp page, and deliver to Engineer.
- F. 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 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 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 include 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 from 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

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 02
EXISTING CONDITIONS

SECTION 024100 - DEMOLITION & SALVAGE

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Provide all labor, materials, equipment and services required for demolition as shown on the Drawings and specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 31 20 00

1.3 PROCEDURE

- A. The procedures proposed for the accomplishment of salvage and demolition work shall be submitted for review. The procedures shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress and timely disconnection of utility services. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
- B. It is the responsibility of the Contractor to visit the site to familiarize himself with the amount of Work that is included under this Section.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 DUST CONTROL

- A. The amount of dust resulting from the demolition shall be controlled to prevent the spread of dust to occupied portions of the plant and to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding and pollution.

3.2 DISCONNECTION OF UTILITY SERVICES

- A. Utilities shall be disconnected at the points indicated by the Owner or Engineer and left in a safe condition.

3.3 BURNING

- A. The use of burning at the project site for the disposal of refuse and debris will not be permitted, unless authorized in writing by the Owner.

3.4 PROTECTION OF EXISTING WORK

- A. Existing work to remain shall be protected from damage. Work damaged by the Contractor shall be repaired to match existing work.

3.5 TRANSITE (AC) PIPE REMOVAL

- A. All existing transite (AC) pipe shall be removed and properly disposed in accordance with the Asbestos NESHAP. At least one onsite representative trained in the regulatory provisions and the means of compliance is required. The trained onsite representative training shall include applicability of the rule; notifications; material identification; control procedures for removal; adequate wetting; local exhaust ventilation; negative pressure enclosures; glove-bag procedures; High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and recordkeeping; and, asbestos hazards and worker protection.
- B. The transite pipe shall be taken to a disposal facility which has EPA or appropriate state permits and hazardous or special waste identification numbers and complies with the provisions of the disposal regulations. Documentation of acceptance of transite pipe by a facility legally permitted to dispose of those materials shall be furnished to the Engineer not later than 5 working days following the delivery of those materials to the facility. A statement of agreement from the proposed disposal facility and certified transporters to accept the transite pipe shall be furnished to the Engineer not less than 14 days before transporting any transite pipe.

END OF SECTION 024100

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 00

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 from 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 regrading and reseeded will be accomplished within 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 recompactd 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 25 00.
- B. Erosion and Sedimentation Control is included in Section 31 29 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 an electronic Notice of Intent form and required attachments to the Division of Water at least seven working (7) days, 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 streams shall be constructed by methods that maintain normal stream flow and allow for a dry excavation. Water pumped from the excavation shall be contained and allowed to settle prior to reentering the stream. 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 within 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 7 days 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	[Irrigation Needed]								
Dormant Seeding	B										B	
Temporary Seeding			G	[Irrigation Needed]			D					
Sodding			F	[Irrigation Needed]								
Mulching	G											

— Seed and Mulch:

A = Fescue, Clover, Ryegrass Mixture: 160 lbs/acre or 4 lbs/1,000 s.f. plus 2 tons mulch per acre
 B = Fescue, Clover, Ryegrass Mixture: 160 lbs/acre 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 electronic Notice of Intent (NOI-SWCA) form at least seven (7) days prior to start of construction activity. The Notice of Intent (NOI) is a Kentucky Pollution Discharge Elimination System (KPDES) permit application as provided by the Kentucky Revised Statutes, Chapter 224. This application is required to be submitted for construction projects that disturb one or more acres of land.

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

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

A project map showing property 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 “Impaired Water” or a “Cold Water Aquatic Habitat Waters, Exceptional Waters, Outstanding National/State Resource Waters”, additional items and/or individual permits may 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 the electronic submittal. Until receipt of notification that NOI is acceptable, site disturbance is not permitted.

G. The permit, fact sheet and forms can be found at [Final Permit KYR100000.pdf](#) and <http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf>

H. 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.

I. 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.

J. 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. The Kentucky NOI electronic submittal, is located at <https://dep.gateway.ky.gov/eForms/Default.aspx?FormID=7>:
- B. 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 electronic NOI to the Kentucky Division of Water (address noted above) at least seven working (7) days prior to the start of work activities. 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 or every fourteen (14) days and within 24-hours 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

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:

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

SECTION 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. Earthwork: Section 312000
- B. 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.
- B. 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.

2.2 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 (1/4")	.281 (9/32")	.312 (5/16")	.406 (13/32")	.469 (15/32")	.500 (1/2")	.562 (9/16")	.625 (10/16")	.656 (21/32")

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.

2.3 CASING SPACERS

- A. 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. Stainless steel casing spacers shall be 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. Stainless steel casing spacers shall be made by Cascade Waterworks Mfg. Co., or equal.

2.4 CASING END SEALS

- A. The annual 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 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 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. Where designated on the drawings, crossings beneath state maintained roads, not to be disturbed shall be accomplished by boring and jacking a casing pipe.
- B. 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 maximum of eight (8) feet apart along the length of the carrier pipe within the casing pipe, within two (2) feet of each side of a pipe joint, and the rest evenly spaced. 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. Manufacturer's recommendations may govern these requirements.
- C. At each end of the casing pipe, the carrier pipe shall be sealed with casing end seals. The end seals shall extend a minimum of 12 inches in each direction from the end of the casing pipe.
- D. Wood skids are not an acceptable method of supporting the carrier pipe.

3.2 CROSSING - RAILROAD

- A. All water or sewer line crossings of railroads shall be prominently marked at railroad right-of-way lines, on both sides of the track crossing, by durable, weatherproof signs located over the center of the water line. When possible, signs shall be located so that when standing at one sign, the other marker is visible. Signs shall show the following:
 - 1. Name and address of Owner.
 - 2. Contents of pipe.
 - 3. Pressure in pipe.
 - 4. Pipe depth below grade at point of sign.
 - 5. Emergency telephone number in event of pipe rupture.
- B. Contractor must adhere to all safety requirements of the Railway line involved in the crossing.
 - 1. All operations shall be conducted so as to not interfere with, interrupt, or endanger the operation of trains nor damage, destroy, or endanger the integrity of railroad facilities. The Contractor shall provide written acknowledgment to the Railway line that the Contractor and its employees have received, read, and understood the safety rules. Operations will be subject to inspection at any and all time.
 - 2. All cranes, lifts, or other equipment that will be operated in the vicinity of the railroad's electrification and power transmission facilities shall be electrically grounded in an approved manner.
 - 3. At all times, while work is in progress, a field supervisor with no less than twelve (12) months experience in the operation of the equipment being used shall be present. If

boring equipment or similar machines are being used, the machine operator shall also have a minimum of twelve (12) months experience in the operation of the equipment being used.

4. Whenever equipment or personnel are working closer than fifteen (15) feet from the centerline of an adjacent track, that track shall be considered as being obstructed. Operations closer than fifteen (15) feet from the centerline of the track shall be conducted only with the permission of, and as directed by, a duly qualified railroad employee present at the site of the work.
 5. Crossing the tracks at grade by equipment and personnel is prohibited except by prior arrangement with, and as directed by, the railroad line. A separate permit must be obtained, by the Contractor, for any “at grade” crossing of the tracks.
- C. All railroad costs incurred by the Railway line due to work associated with the crossing (inspection, flagging, track work, etc.) shall be paid by the Contractor. It is the Contractor’s responsibility to coordinate the work with the Railway. See approved CSX Permit attached to this section.
- D. Contractor shall notify the Railway line’s area engineer a minimum of 30 working days prior to the desired start of construction. See approved CSX Permit attached to this section.

3.3 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.

3.4 CONTRACTOR'S RESPONSIBILITIES

- A. Obtain a copy of the Highway Encroachment and/or Railroad Permit before beginning construction.
- B. Attend a preconstruction meeting at the construction site with the City Inspector, Railroad Inspector, Highway Inspector Engineer, and Contractor being present.

END OF SECTION 330523



Jessica Braig
Contract Specialist

6737 Southpoint Drive South, Bldg 1
Jacksonville, FL 32216
904.279.3881
Jessica.Braig@csx.com

April 20, 2015

Mr. Russ Rose
Oldham County Water District
3707 West Highway 146
LaGrange, KY 40031

Agreement No.: CSX780145 Dated: January 19, 2015

Dear Mr. Russ Rose,

Attached is the fully-executed Agreement of the above reference file.

In accordance with this Agreement, Agreement Holder is responsible for paying the actual cost of CSXT flagging and/or support services, including all applicable surcharges (collectively "Fees").

No work is to be performed on CSXT property without Roadmaster's authorization.

It is your responsibility to schedule any work on CSXT property with CSXT Outside Services. To schedule the work, complete and follow the instructions on the attached Outside Party Number Request Form.

It was a pleasure assisting you with this project and we look forward to working with you in the future.

Should there be any questions, please feel free to give us a call at the above referenced number.

Sincerely,


FOK Jessica Braig

Attachement



Date: _____

Instructions:

Please fill out sections 2-4 then submit to the Flagging Coordinator via email or fax.

Flagging Coordinator

E-Mail: op_request@csx.com

Fax: 904.245.3692

Telephone: 904.279.3805

Flagging/Inspection (Responsibility of Agreement Holder)

Estimated Average Cost

Flagging: \$1,000 per day (minimum 8 hours)

Inspection: \$1,500 per day

.. Important Information

The estimated flagging and inspection cost is based on average cost for 8 hours regular time on CSX work days. Overtime rates will apply for hours beyond 8 hours per day or beyond 40 hours per week for railroad personnel. Inspection costs will include inspector's project time, travel time, expenses, per diem, project management cost for scheduling, means and methods review, coordinating, and general account administration. Other railroad costs may include signal locates, material, rental equipment, burden and tax. The above references flagging and inspection costs are estimates only and will be billed after the project commencement.

In the event local flagging services are not available at the time of your request, flagging resources from outside the geographical area of our project may be assigned at extra cost to the Agreement Holder/Project Owner. The cost of flagging services vary based on factors including but not limited to, type of project, duration of project, utilization of local or out-of-town flagging personnel, etc.

1. Project Contact Information

Contact Name: _____
Company Name: _____
Address: _____
City_State_Zip: _____
Phone: _____
Email: _____

2. Billing Contact Information (Agreement Holder/Facility Owner)

Contact Name: _____
Company Name: Oldham County Water District
Billing Address: _____
City_State_Zip: _____
Phone: _____
Email: _____

3. Project Information

Agreement Number: CSX780145 Agreement Date: 1/19/2015
City/County/ST/Mile: Buckner, Oldham County, Kentucky, Louisville Division, Louisville Cincinnati Subdivision, Milepost 00T-23.
Request Start Date: _____
Duration in Days: _____
Project Description: _____

CROSSING 10" PVC WATER MAIN IN A 18" STEEL CASING. LOCATED AT MP 00T-23.43 VAL STA 1409+00

4. CSX Use Only:

Road Master (RM): _____ Signal Manager: _____
RM Email: _____ Signal Mgr. Email: _____
RM Phone: _____ Signal Mgr. Phone: _____
Division: _____ Subdivision: _____

Additional Documents Needed _____

Special Billing Instructions

Contractor Must Provide CGL: No CGL Expiration Date: 7/1/2015
PL Insurance: Paid Contractor Must Provide RPL: No
Inspector Required? Yes Proj. Cord. Fee Paid? No OP# _____ Valid Thru _____

FACILITY ENCROACHMENT AGREEMENT

THIS AGREEMENT, Made and effective as of January 19, 2015, by and between CSX TRANSPORTATION, INC., a Virginia corporation, whose mailing address is 500 Water Street, Jacksonville, Florida 32202, hereinafter called "Licensor," and OLDHAM COUNTY WATER DISTRICT, a municipal corporation, political subdivision or state agency, under the laws of the Commonwealth of Kentucky, whose mailing address is 3707 West Highway 146, La Grange, Kentucky 40031, hereinafter called "Licensee," WITNESSETH:

WHEREAS, Licensee desires to construct (unless previously constructed and designated as existing herein), use and maintain the below described facility(ies), hereinafter called "Facilities," over, under or across property owned or controlled by Licensor, at the below described location(s):

1. One (1) ten inch (10") diameter sub-grade pipeline crossing, solely for the conveyance of potable water, located at or near Buckner, Oldham County, Kentucky, Louisville Division, Louisville Cincinnati Subdivision, Milepost 00T-23.43, Latitude N38:23:06.00, Longitude W85:26:02.00;

hereinafter, collectively, called the "Encroachment," as shown on print(s) labeled Exhibit "A," attached hereto and made a part hereof;

NOW, THEREFORE, in consideration of the mutual covenants, conditions, terms and agreements herein contained, the parties hereto agree and covenant as follows:

1. LICENSE:

1.1 Subject to Article 17, Licensor, insofar as it has the legal right, power and authority to do so, and its present title permits, and subject to:

- (A) Licensor's present and future right to occupy, possess and use its property within the area of the Encroachment for any and all purposes;
- (B) All encumbrances, conditions, covenants, easements, and limitations applicable to Licensor's title to or rights in the subject property; and
- (C) Compliance by Licensee with the terms and conditions herein contained;

does hereby license and permit Licensee to construct, maintain, repair, renew, operate, use, alter or change the Facilities at the Encroachment above for the term herein stated, and to remove same upon termination.

1.2 The term Facilities, as used herein, shall include only those structures and ancillary facilities devoted exclusively to the transmission usage above within the Encroachment, and as shown on attached Exhibit A.

1.3 No additional structures or other facilities shall be placed, allowed, or maintained by Licensee in, upon or on the Encroachment except upon prior separate written consent of Licensor.

2. ENCROACHMENT FEE; TERM:

2.1 Licensee shall pay Licensor a one-time nonrefundable Encroachment Fee of FOUR THOUSAND AND 00/100 U.S. DOLLARS (\$4,000.00) upon execution of this Agreement. Licensee agrees that the Encroachment Fee applies only to the original Licensee under this Agreement. In the event of a successor (by merger, consolidation, reorganization and/or assignment) or if the original Licensee changes its name, then Licensee shall be subject to payment of Licensor's current administrative and document preparation fees for the cost incurred by Licensor in preparing and maintaining this Agreement on a current basis.

2.2 However, Licensee assumes sole responsibility for, and shall pay directly (or reimburse Licensor), any additional annual taxes and/or periodic assessments levied against Licensor or Licensor's property solely on account of said Facilities or Encroachment.

2.3 This Agreement shall terminate as herein provided, but shall also terminate upon: (a) Licensee's cessation of use of the Facilities or Encroachment for the purpose(s) above; (b) removal of the Facilities; (c) subsequent mutual consent; and/or (d) failure of Licensee to complete installation within five (5) years from the effective date of this Agreement.

2.4 In further consideration for the license or right hereby granted, Licensee hereby agrees that Licensor shall not be charged or assessed, directly or indirectly, with any part of the cost of the installation of said Facilities and appurtenances, and/or maintenance thereof, or for any public works project of which said Facilities is a part.

3. CONSTRUCTION, MAINTENANCE AND REPAIRS:

3.1 Licensee shall construct, maintain, relocate, repair, renew, alter, and/or remove the Facilities, in a prudent, workmanlike manner, using quality materials and complying with any applicable standard(s) or regulation(s) of Licensor (CSXT Specifications), or Licensee's particular industry, National Electrical Safety Code, or any governmental or regulatory body having jurisdiction over the Encroachment.

3.2 Location and construction of Facilities shall be made strictly in accordance with design(s) and specifications furnished to and approved by Licensor and of material(s) and size(s) appropriate for the purpose(s) above recited.

3.3 All of Licensee's work, and exercise of rights hereunder, shall be undertaken at time(s) satisfactory to Licensor, and so as to eliminate or minimize any impact on or interference with the safe use and operation of Licensor's property and appurtenances thereto.

3.4 In the installation, maintenance, repair and/or removal of said Facilities, Licensee shall not use explosives of any type or perform or cause any blasting without the separate express written consent of Licensor. As a condition to such consent, a representative will be assigned by Licensor to monitor blasting, and Licensee shall reimburse Licensor for the entire cost and/or expense of furnishing said monitor.

3.5 Any repairs or maintenance to the Facilities, whether resulting from acts of Licensee, or natural or weather events, which are necessary to protect or facilitate Licensor's use of its property, shall be made by Licensee promptly, but in no event later than thirty (30) days after Licensee has notice as to the need for such repairs or maintenance.

3.6 Licensor, in order to protect or safeguard its property, rail operations, equipment and/or employees from damage or injury, may request immediate repair or renewal of the Facilities, and if the same is not performed, may make or contract to make such repairs or renewals, at the sole risk, cost and expense of Licensee.

3.7 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

3.8 All work on the Encroachment shall be conducted in accordance with Licensor's safety rules and regulations.

3.9 Licensee hereby agrees to reimburse Licensor any loss, cost or expense (including losses resulting from train delays and/or inability to meet train schedules) arising from any failure of Licensee to make repairs or conduct maintenance as required by Section 3.5 above or from improper or incomplete repairs or maintenance to the Facilities or Encroachment.

4. PERMITS, LICENSES:

4.1 Before any work hereunder is performed, or before use of the Encroachment for the contracted purpose, Licensee, at its sole cost and expense, shall obtain all necessary permit(s) (including but not limited to zoning, building, construction, health, safety or environmental matters), letter(s) or certificate(s) of approval. Licensee expressly agrees and warrants that it shall conform and limit its activities to the terms of such permit(s), approval(s) and authorization(s), and shall comply with all applicable ordinances, rules, regulations, requirements and laws of any governmental authority (State, Federal or Local) having jurisdiction over Licensee's activities, including the location, contact, excavation and protection regulations of the Occupational Safety and Health Act (OSHA) (29 CFR 1926.651(b)), et al., and State "One Call" - "Call Before You Dig" requirements.

4.2 Licensee assumes sole responsibility for failure to obtain such permit(s) or approval(s), for any violations thereof, or for costs or expenses of compliance or remedy.

5. MARKING AND SUPPORT:

5.1 With respect to any subsurface installation or maintenance upon Licensor's property, Licensee, at its sole cost and expense, shall:

- (A) support track(s) and roadbed in a manner satisfactory to Licensor;
- (B) backfill with satisfactory material and thoroughly tamp all trenches to prevent settling of surface of land and roadbed of Licensor; and
- (C) either remove any surplus earth or material from Licensor's property or cause said surplus earth or material to be placed and distributed at location(s) and in such manner Licensor may approve.

5.2 After construction or maintenance of the Facilities, Licensee shall:

- (A) Restore any track(s), roadbed and other disturbed property; and
- (B) Erect, maintain and periodically verify the accuracy of aboveground markers, in a form approved by Licensor, indicating the location, depth and ownership of any underground Facilities or related facilities.

5.3 Licensee shall be solely responsible for any subsidence or failure of lateral or subjacent support in the Encroachment area for a period of three (3) years after completion of installation.

6. TRACK CHANGES:

6.1 In the event that rail operations and/or track maintenance result in changes in grade or alignment of, additions to, or relocation of track(s) or other facilities, or in the event future use of Licensor's rail corridor or property necessitate any change of location, height or depth in the Facilities or Encroachment, Licensee, at its sole cost and expense and within thirty (30) days after notice in writing from Licensor, shall make changes in the Facilities or Encroachment to accommodate such track(s) or operations.

6.2 If Licensee fails to do so, Licensor may make or contract to make such changes at Licensee's cost.

7. FACILITY CHANGES:

7.1 Licensee shall periodically monitor and verify the depth or height of the Facilities or Encroachment in relation to the existing tracks and facilities, and shall relocate the Facilities or change the Encroachment, at Licensee's expense, should such relocation or change be necessary to comply with the minimum clearance requirements of Licensor.

7.2 If Licensee undertakes to revise, renew, relocate or change in any manner whatsoever all or any part of the Facilities (including any change in voltage or gauge of wire or any change in circumference, diameter or radius of pipe or change in materials transmitted in and through said pipe), or is required by any public agency or court order to do so, plans therefor shall be submitted to Licensor for approval before such change. After approval, the terms and conditions of this Agreement shall apply thereto.

8. INTERFERENCE WITH RAIL FACILITIES:

8.1 Although the Facilities/Encroachment herein permitted may not presently interfere with Licensor's railroad or facilities, in the event that the operation, existence or maintenance of said Facilities, in the sole judgment of Licensor, causes: (a) interference (including, but not limited to, physical or interference from an electromagnetic induction, or interference from stray or other currents) with Licensor's power lines, communication, signal or other wires, train control system, or electrical or electronic apparatus; or (b) interference in any manner, with the operation, maintenance or use of the rail corridor, track(s), structures, pole line(s), devices, other property, or any appurtenances thereto; then and in either event, Licensee, upon receipt of written notice from Licensor of any such interference, and at Licensee's sole risk, cost and expense, shall promptly make such changes in its Facilities or installation, as may be required in the reasonable judgment of the Licensor to eliminate all such interference. Upon Licensee's failure to remedy or change, Licensor may do so or contract to do so at Licensee's sole cost.

8.2 Without assuming any duty hereunder to inspect the Facilities, Licensor hereby reserves the right to inspect same and to require Licensee to undertake repairs, maintenance or adjustments to the Facilities, which Licensee hereby agrees to make promptly, at Licensee's sole cost and expense.

9. RISK, LIABILITY, INDEMNITY:

With respect to the relative risk and liabilities of the parties, it is hereby agreed that:

9.1 To the fullest extent permitted by State law (constitutional or statutory, as amended), Licensee hereby agrees to, defend, indemnify, and hold Licensor harmless from and against any and all liability, loss, claim, suit, damage, charge or expense which Licensor may suffer, sustain, incur or in any way be subjected to, on account of death of or injury to any person whomsoever (including officers, agents, employees or invitees of Licensor), and for damage to or loss of or destruction of any property whatsoever, arising out of, resulting from, or in any way connected with the construction, repair, maintenance, replacement, presence, existence, operations, use or removal of the Facilities or any structure in connection therewith, or restoration of premises of Licensor to good order or condition after removal, EXCEPT when proven to have been caused solely by the willful misconduct or gross negligence of Licensor. HOWEVER, to the fullest extent permitted by State law, during any period of actual construction, repair, maintenance, replacement or removal of the Facilities, wherein agents, equipment or personnel of Licensee are on the railroad rail corridor, Licensee's liability

hereunder shall be absolute, irrespective of any joint, sole or contributory fault or negligence of Licensor.

9.2 Use of Licensor's rail corridor involves certain risks of loss or damage as a result of the rail operations. Notwithstanding Section 9.1, Licensee expressly assumes all risk of loss and damage to Licensee's Property or the Facilities in, on, over or under the Encroachment, including loss of or any interference with use or service thereof, regardless of cause, including electrical field creation, fire or derailment resulting from rail operations. For this Section, the term "Licensee's Property" shall include property of third parties situated or placed upon Licensor's rail corridor by Licensee or by such third parties at request of or for benefit of Licensee.

9.3 To the fullest extent permitted by State law, as above, Licensee assumes all responsibility for, and agrees to defend, indemnify and hold Licensor harmless from: (a) all claims, costs and expenses, including reasonable attorneys' fees, as a consequence of any sudden or nonsudden pollution of air, water, land and/or ground water on or off the Encroachment area, arising from or in connection with the use of this Encroachment or resulting from leaking, bursting, spilling, or any escape of the material transmitted in or through the Facilities; (b) any claim or liability arising under federal or state law dealing with either such sudden or nonsudden pollution of air, water, land and/or ground water arising therefrom or the remedy thereof; and (c) any subsidence or failure of lateral or subjacent support of the tracks arising from such Facilities leakage.

9.4 Notwithstanding Section 9.1, Licensee also expressly assumes all risk of loss which in any way may result from Licensee's failure to maintain either required clearances for any overhead Facilities or the required depth and encasement for any underground Facilities, whether or not such loss(es) result(s) in whole or part from Licensor's contributory negligence or joint fault.

9.5 Obligations of Licensee hereunder to release, indemnify and hold Licensor harmless shall also extend to companies and other legal entities that control, are controlled by, subsidiaries of, or are affiliated with Licensor, as well as any railroad that operates over the rail corridor on which the Encroachment is located, and the officers, employees and agents of each.

9.6 If a claim is made or action is brought against Licensor, and/or its operating lessee, for which Licensee may be responsible hereunder, in whole or in part, Licensee shall be notified to assume the handling or defense of such claim or action; but Licensor may participate in such handling or defense.

9.7 Notwithstanding anything contained in this Agreement, the limitation of liability contained in the state statutes, as amended from time to time, shall not limit Licensor's ability to collect under the insurance policies required to be maintained under this Agreement.

10. INSURANCE:

10.1 Prior to commencement of surveys, installation or occupation of premises pursuant to this Agreement, Licensee shall procure and shall maintain during the continuance of this Agreement, at its sole cost and expense, a policy of

(i) Statutory Worker's Compensation and Employers Liability Insurance with available limits of not less than ONE MILLION AND 00/100 U.S. DOLLARS (\$1,000,000.00), which must contain a waiver of subrogation against CSXT and its Affiliates;

(ii) Commercial General Liability coverage (inclusive of contractual liability) with available limits of not less than FIVE MILLION AND 00/100 U.S. DOLLARS (\$5,000,000.00), naming Licensor, and/or its designee, as additional insured and in combined single limits for bodily injury and property damage and covering the contractual liabilities assumed under this Agreement. The evidence of insurance coverage shall be endorsed to provide for thirty (30) days' notice to Licensor, or its designee, prior to cancellation or modification of any policy. Mail CGL certificate, along with agreement, to CSX Transportation, Inc., Speed Code J180, 500 Water Street, Jacksonville, FL 32202. On each successive year, send certificate to RenewalCOI@csx.com.

(iii) Business automobile liability insurance with available limits of not less than ONE MILLION AND 00/100 U.S. DOLLARS (\$1,000,000.00) combined single limit for bodily injury and/or property damage per occurrence;

(iv) Such other insurance as Licensor may reasonably require.

10.2 If Licensee's existing CGL policy(ies) do(es) not automatically cover Licensee's contractual liability during periods of survey, installation, maintenance and continued occupation, a specific endorsement adding such coverage shall be purchased by Licensee. If said CGL policy is written on a "claims made" basis instead of a "per occurrence" basis, Licensee shall arrange for adequate time for reporting losses. Failure to do so shall be at Licensee's sole risk.

10.3 Licensor, or its designee, may at any time request evidence of insurance purchased by Licensee to comply with this Agreement. Failure of Licensee to comply with Licensor's request shall be considered a default by Licensee.

10.4 Securing such insurance shall not limit Licensee's liability under this Agreement, but shall be security therefor.

10.5 (A) In the event Licensee finds it necessary to perform construction or demolition operations within fifty feet (50') of any operated railroad track(s) or affecting any railroad bridge, trestle, tunnel, track(s), roadbed, overpass or underpass, Licensee shall: (a) notify Licensor; and (b) require its contractor(s) performing such operations to procure and maintain during the period of construction or demolition operations, at no cost to Licensor, Railroad Protective Liability (RPL) Insurance, naming Licensor, and/or its designee, as Named Insured,

written on the current ISO/RIMA Form (ISO Form No. CG 00 35 01 96) with limits of FIVE MILLION AND 00/100 U.S. DOLLARS (\$5,000,000.00) per occurrence for bodily injury and property damage, with at least TEN MILLION AND 00/100 U.S. DOLLARS (\$10,000,000.00) aggregate limit per annual policy period, with Pollution Exclusion Amendment (ISO CG 28 31 11 85) if an older ISO Form CG 00 35 is used. The original of such RPL policy shall be sent to and approved by Licensor prior to commencement of such construction or demolition. Licensor reserves the right to demand higher limits.

(B) At Licensor's option, in lieu of purchasing RPL insurance from an insurance company (but not CGL insurance), Licensee may pay Licensor, at Licensor's current rate at time of request, the cost of adding this Encroachment, or additional construction and/or demolition activities, to Licensor's Railroad Protective Liability (RPL) Policy for the period of actual construction. This coverage is offered at Licensor's discretion and may not be available under all circumstances.

10.6 Notwithstanding the provisions of Sections 10.1 and 10.2, Licensee, pursuant to State Statute(s), may self-insure or self-assume, in any amount(s), any contracted liability arising under this Agreement, under a funded program of self-insurance, which fund will respond to liability of Licensee imposed by and in accordance with the procedures established by law.

11. GRADE CROSSINGS; FLAGGING:

11.1 Nothing herein contained shall be construed to permit Licensee or Licensee's contractor to move any vehicles or equipment over the track(s), except at public road crossing(s), without separate prior written approval of Licensor (CSXT Form 7422).

11.2 If Licensor deems it advisable, during any construction, maintenance, repair, renewal, alteration, change or removal of said Facilities, to place watchmen, flagmen, inspectors or supervisors for protection of operations of Licensor or others on Licensor's rail corridor at the Encroachment, and to keep persons, equipment or materials away from the track(s), Licensor shall have the right to do so at the expense of Licensee, but Licensor shall not be liable for failure to do so.

11.3 Subject to Licensor's consent and to Licensor's Railroad Operating Rules and labor agreements, Licensee may provide flagmen, watchmen, inspectors or supervisors during all times of construction, repair, maintenance, replacement or removal, at Licensee's sole risk and expense; and in such event, Licensor shall not be liable for the failure or neglect of such watchmen, flagmen, inspectors or supervisors.

12. LICENSOR'S COSTS:

12.1 Any additional or alternative costs or expenses incurred by Licensor to accommodate Licensee's continued use of Licensor's property as a result of track changes or wire changes shall also be paid by Licensee.

12.2 Licensor's expense for wages ("force account" charges) and materials for any work performed at the expense of Licensee pursuant hereto shall be paid by Licensee within thirty (30) days after receipt of Licensor's bill therefor. Licensor may, at its discretion, request an advance deposit for estimated Licensor costs and expenses.

12.3 Such expense shall include, but not be limited to, cost of railroad labor and supervision under "force account" rules, plus current applicable overhead percentages, the actual cost of materials, and insurance, freight and handling charges on all material used. Equipment rentals shall be in accordance with Licensor's applicable fixed rate. Licensor may, at its discretion, require advance deposits for estimated costs of such expenses and costs.

13. DEFAULT, BREACH, WAIVER:

13.1 The proper and complete performance of each covenant of this Agreement shall be deemed of the essence thereof, and in the event Licensee fails or refuses to fully and completely perform any of said covenants or remedy any breach within thirty (30) days after receiving written notice from Licensor to do so (or within forty-eight (48) hours in the event of notice of a railroad emergency), Licensor shall have the option of immediately revoking this Agreement and the privileges and powers hereby conferred, regardless of encroachment fee(s) having been paid in advance for any annual or other period. Upon such revocation, Licensee shall make removal in accordance with Article 14.

13.2 No waiver by Licensor of its rights as to any breach of covenant or condition herein contained shall be construed as a permanent waiver of such covenant or condition, or any subsequent breach thereof, unless such covenant or condition is permanently waived in writing by Licensor.

13.3 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

14. TERMINATION, REMOVAL:

14.1 All rights which Licensee may have hereunder shall cease upon the date of (a) termination, (b) revocation, or (c) subsequent agreement, or (d) Licensee's removal of the Facility from the Encroachment. However, neither termination nor revocation of this Agreement shall affect any claims and liabilities which have arisen or accrued hereunder, and which at the time of termination or revocation have not been satisfied; neither party, however, waiving any third party defenses or actions.

14.2 Within thirty (30) days after revocation or termination, Licensee, at its sole risk and expense, shall (a) remove the Facilities from the rail corridor of Licensor, unless the parties hereto agree otherwise, (b) restore the rail corridor of Licensor in a manner satisfactory to

Licensor, and (c) reimburse Licensor any loss, cost or expense of Licensor resulting from such removal.

15. NOTICE:

15.1 Licensee shall give Licensor at least thirty (30) days written notice before doing any work on Licensor's rail corridor, except that in cases of emergency shorter notice may be given. Licensee shall provide proper notification as follows:

a. For non-emergencies, Licensee shall complete and submit Licensor's Outside Party Number Request Form (Form # OP) by facsimile, to facsimile numbers: (904) 245-3692. Licensee may also scan and email a completed form to email address: OP_Request@csx.com. A blank form, as well as additional instructions and information, can be obtained from Licensor's web site, via web link:
http://www.csx.com/share/wwwcsx_mura/assets/File/Customers/Non-freight_Services/Property_Real_Estate/Outside_Party_Number_Request_Form.pdf.

b. For emergencies, Licensee shall complete all of the steps outlined in Section 15.1 a. above, and shall also include detailed information of the emergency. Licensee shall also call and report details of the emergency to Licensor's Rail Operations Emergency Telephone Number: 1-800-232-0144. In the event Licensor needs to contact Licensee concerning an emergency involving Licensee's Facility(ies), the emergency phone number for Licensee is: 502-222-1690.

15.2 All other notices and communications concerning this Agreement shall be addressed to Licensee at the address above, and to Licensor at the address shown on Page 1, c/o CSXT Contract Management, J180; or at such other address as either party may designate in writing to the other.

15.3 Unless otherwise expressly stated herein, all such notices shall be in writing and sent via Certified or Registered Mail, Return Receipt Requested, or by courier, and shall be considered delivered upon: (a) actual receipt, or (b) date of refusal of such delivery.

16. ASSIGNMENT:

16.1 The rights herein conferred are the privileges of Licensee only, and Licensee shall obtain Licensor's prior written consent to any assignment of Licensee's interest herein; said consent shall not be unreasonably withheld.

16.2 Subject to Sections 2 and 16.1, this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors or assigns.

16.3 Licensee shall give Licensor written notice of any legal succession (by merger, consolidation, reorganization, etc.) or other change of legal existence or status of Licensee, with a copy of all documents attesting to such change or legal succession, within thirty (30) days thereof.

16.4 Licensor expressly reserves the right to assign this Agreement, in whole or in part, to any grantee, lessee, or vendee of Licensor's underlying property interests in the Encroachment, upon written notice thereof to Licensee.

16.5 In the event of any unauthorized sale, transfer, assignment, sublicense or encumbrance of this Agreement, or any of the rights and privileges hereunder, Licensor, at its option, may revoke this Agreement by giving Licensee or any such assignee written notice of such revocation; and Licensee shall reimburse Licensor for any loss, cost or expense Licensor may incur as a result of Licensee's failure to obtain said consent.

17. TITLE:

17.1 Licensee understands that Licensor occupies, uses and possesses lands, rights-of-way and rail corridors under all forms and qualities of ownership rights or facts, from full fee simple absolute to bare occupation. Accordingly, nothing in this Agreement shall act as or be deemed to act as any warranty, guaranty or representation of the quality of Licensor's title for any particular Encroachment or segment of Rail Corridor occupied, used or enjoyed in any manner by Licensee under any rights created in this Agreement. It is expressly understood that Licensor does not warrant title to any Rail Corridor and Licensee will accept the grants and privileges contained herein, subject to all lawful outstanding existing liens, mortgages and superior rights in and to the Rail Corridor, and all leases, licenses and easements or other interests previously granted to others therein.

17.2 The term "license," as used herein, shall mean with regard to any portion of the Rail Corridor which is owned by Licensor in fee simple absolute, or where the applicable law of the State where the Encroachment is located otherwise permits Licensor to make such grants to Licensee, a "permission to use" the Rail Corridor, with dominion and control over such portion of the Rail Corridor remaining with Licensor, and no interest in or exclusive right to possess being otherwise granted to Licensee. With regard to any other portion of Rail Corridor occupied, used or controlled by Licensor under any other facts or rights, Licensor merely waives its exclusive right to occupy the Rail Corridor and grants no other rights whatsoever under this Agreement, such waiver continuing only so long as Licensor continues its own occupation, use or control. Licensor does not warrant or guarantee that the license granted hereunder provides Licensee with all of the rights necessary to occupy any portion of the Rail Corridor. Licensee further acknowledges that it does not have the right to occupy any portion of the Rail Corridor held by Licensor in less than fee simple absolute without also receiving the consent of the owner(s) of the fee simple absolute estate. Further, Licensee shall not obtain, exercise or claim any interest in the Rail Corridor that would impair Licensor's existing rights therein.

17.3 Licensee agrees it shall not have nor shall it make, and hereby completely and absolutely waives its right to, any claim against Licensor for damages on account of any deficiencies in title to the Rail Corridor in the event of failure or insufficiency of Licensor's title to any portion thereof arising from Licensee's use or occupancy thereof.

17.4 Licensee agrees to fully and completely indemnify and defend all claims or litigation for slander of title, overburden of easement, or similar claims arising out of or based upon the Facilities placement, or the presence of the Facilities in, on or along any Encroachment(s), including claims for punitive or special damages.

17.5 Licensee shall not at any time own or claim any right, title or interest in or to Licensor's property occupied by the Encroachments, nor shall the exercise of this Agreement for any length of time give rise to any right, title or interest in Licensee to said property other than the license herein created.

17.6 Nothing in this Agreement shall be deemed to give, and Licensor hereby expressly waives, any claim of ownership in and to any part of the Facilities.

17.7 Licensee shall not create or permit any mortgage, pledge, security, interest, lien or encumbrances, including without limitation, tax liens and liens or encumbrances with respect to work performed or equipment furnished in connection with the construction, installation, repair, maintenance or operation of the Facilities in or on any portion of the Encroachment (collectively, "Liens or Encumbrances"), to be established or remain against the Encroachment or any portion thereof or any other Licensor property.

17.8 In the event that any property of Licensor becomes subject to such Liens or Encumbrances, Licensee agrees to pay, discharge or remove the same promptly upon Licensee's receipt of notice that such Liens or Encumbrances have been filed or docketed against the Encroachment or any other property of Licensor; however, Licensee reserves the right to challenge, at its sole expense, the validity and/or enforceability of any such Liens or Encumbrances.

18. GENERAL PROVISIONS:

18.1 This Agreement, and the attached specifications, contains the entire understanding between the parties hereto.

18.2 Neither this Agreement, any provision hereof, nor any agreement or provision included herein by reference, shall operate or be construed as being for the benefit of any third person.

18.3 Except as otherwise provided herein, or in any Rider attached hereto, neither the form of this Agreement, nor any language herein, shall be interpreted or construed in favor of or against either party hereto as the sole drafter thereof.

18.4 This Agreement is executed under current interpretation of applicable Federal, State, County, Municipal or other local statute, ordinance or law(s). However, each separate division (paragraph, clause, item, term, condition, covenant or agreement) herein shall have independent and severable status for the determination of legality, so that if any separate division is determined to be void or unenforceable for any reason, such determination shall have

no effect upon the validity or enforceability of each other separate division, or any combination thereof.

18.5 This Agreement shall be construed and governed by the laws of the state in which the Facilities and Encroachment are located.

18.6 If any amount due pursuant to the terms of this Agreement is not paid by the due date, it will be subject to Licensor's standard late charge and will also accrue interest at eighteen percent (18%) per annum, unless limited by local law, and then at the highest rate so permitted.

18.7 Licensee agrees to reimburse Licensor for all reasonable costs (including attorney's fees) incurred by Licensor for collecting any amount due under the Agreement.

18.8 The provisions of this License are considered confidential and may not be disclosed to a third party without the consent of the other party(s), except: (a) as required by statute, regulation or court order, (b) to a parent, affiliate or subsidiary company, (c) to an auditing firm or legal counsel that are agreeable to the confidentiality provisions, or (d) to Lessees of Licensor's land and/or track who are affected by the terms and conditions of this Agreement and will maintain the confidentiality of this Agreement.

18.9 Licensor shall refund to Licensee any overpayments collected, plus any taxes paid in advance; PROVIDED, however, such refund shall not be made when the cumulative total involved is less than One Hundred Dollars (\$100.00).

19. RESERVED:

20. RESERVED:

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate
(each of which shall constitute an original) as of the effective date of this Agreement.

Witness for Licensor:

Jessie A. [Signature]

CSX TRANSPORTATION, INC.

By: *[Signature]*

Print/Type Name: David E. Elder
Director

Print/Type Title: _____

Witness for Licensee:

[Signature]

OLDHAM COUNTY WATER DISTRICT

By: *Russell D. Rose*

Who, by the execution hereof, affirms that he/she has
the authority to do so and to bind the Licensee to the
terms and conditions of this Agreement.

Print/Type Name: RUSSELL D. ROSE

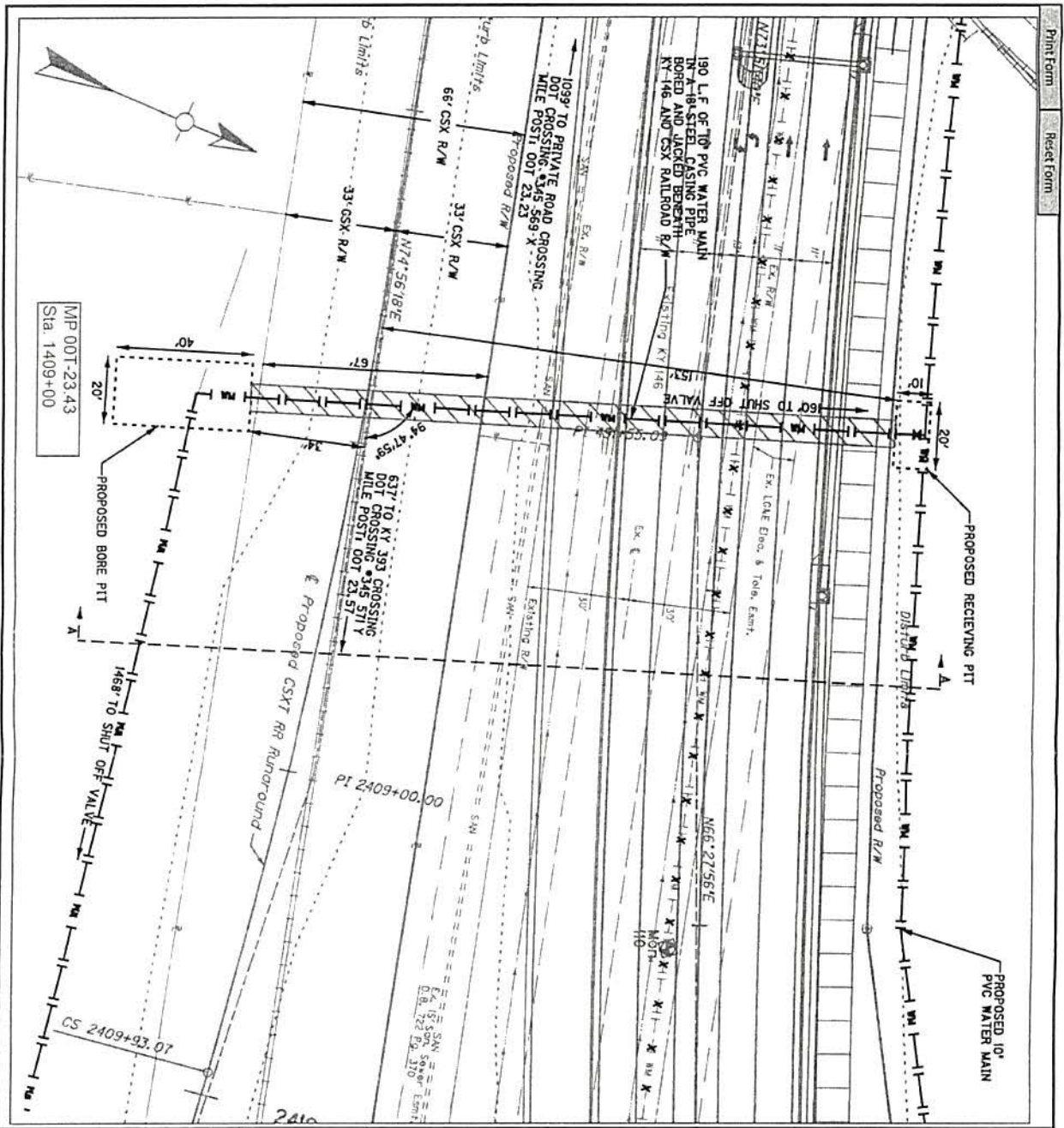
Print/Type Title: SUPERINTENDENT

Tax ID No.: 61-0984582

Authority under Ordinance or

Resolution No. 1 SPECIAL MEETING MINUTES (ATTACHED)

Dated 3-30-2015



Print Form
Replot Form

CSX 78 0145

NOTES:

- (a) East Crossing: 637 linear feet to KY 393 Crossing, DOT Crossing #345 571 Y, Mile Post: 007 23.57
- West Crossing: 1099 linear feet to private road crossing, DOT Crossing #345 569 X, Mile Post: 007 23.23
- (b) 66 linear feet
- (c) 33 linear feet
- (d) 67 linear feet
- (e) Bore Pit: 34 linear feet
- (f) Receiving Pit: 153 linear feet
- (g) 94°47'59"
- (h) North Shut Off Valve: 160 linear feet
- South Shut Off Valve: 148 linear feet
- (i) Bore Pit: 40 linear feet
- (j) Receiving Pit: 10 linear feet
- (k) Bore Pit: 20 linear feet
- (l) Receiving Pit: 20 linear feet

CSX PROPERTY SERVICES REVIEW
 No Exceptions
 Exceptions Noted
 This review is for the general contractor with CSX utility design specifications only. CSX utility design specifications are not to be construed as a contract. This review does not constitute approval to proceed without meeting all of CSX's safety and contractual requirements.

engineering | architecture | geospatial

Location: Intersection of KY 146 and KY 393
 Latitude: 38° 23' 6"
 Longitude: -85° 26' 2"

Drawing No.: _____ Sheet 1 of 2
 Drawing Date: Jun 30, 2014 Last Revised: Jul 7, 2014
 Drawing Scale: 1" = 30' Feet

Print Form	Reedit Form						
<p>PIPELINE CONTENT DETAILS</p> <p>Commodity Description: Water</p> <p>Maximum Operating Pressure: 200</p> <p>Is Commodity Flammable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>							
<p>CARRIER/CASING PIPE DETAILS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier Pipe</th> <th>Casing Pipe</th> </tr> </thead> <tbody> <tr> <td> Pipe Material: PVC Material Specifications & Grade: ASTM D2241 SDR-21 Specified Minimum Yield Strength: 10,275 Nominal Size Outside Diameter (Inches): 0.511 </td> <td> Pipe Material: Steel Material Specifications & Grade: ASTM A252 GR. 2/ASTM A139 GR. B Specified Minimum Yield Strength: 35,000 Nominal Size Outside Diameter (Inches): 18 Wall Thickness (Inches): 0.312" </td> </tr> </tbody> </table>				Carrier Pipe	Casing Pipe	Pipe Material: PVC Material Specifications & Grade: ASTM D2241 SDR-21 Specified Minimum Yield Strength: 10,275 Nominal Size Outside Diameter (Inches): 0.511	Pipe Material: Steel Material Specifications & Grade: ASTM A252 GR. 2/ASTM A139 GR. B Specified Minimum Yield Strength: 35,000 Nominal Size Outside Diameter (Inches): 18 Wall Thickness (Inches): 0.312"
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<p>engineering architecture geospatial</p>							
<p>Location: Intersection of KY 146 and KY 393</p> <p>Latitude: 38° 23' 6"</p> <p>Longitude: -85° 26' 2"</p> <p>Drawing No.: _____ Sheet 2 of 2</p> <p>Drawing Date: Jun 30, 2014 Last Revised: Jul 7, 2014</p> <p>Drawing Scale: V 1 inches = 15 feet</p> <p>Drawing Scale: II 1 inches = 30 feet</p>							
<p>CSX PROPERTY SERVICES REVIEW</p> <p><input type="checkbox"/> No Exceptions <input checked="" type="checkbox"/> Exceptions Noted</p> <p>This review is for the general convenience with CSX utility safety and health. It is not intended to constitute an approval or warranty of any kind. The reviewer is not responsible for any errors or omissions in this review. All drawings and specifications must be prepared without meeting all of CSX's safety and construction requirements.</p> <p>By: <i>[Signature]</i></p>							
<p>THE FRONT OF THE CASING PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE ALGEBER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE.</p> <p>CSX PIPELINE SPECS: PAGE 23, 40, 46 (c)</p> <p>CASING PIPE ENDS WILL BE SEALED IN ACCORDANCE WITH CSXT SPECS. CSXT PIPELINE SPECS PAGE 19, E)</p>							
<p>NOTES:</p> <p>(a): 33 linear feet (b): 12 feet (c): West: 10 feet East: 10.5 feet (d): 67 linear feet (e): Bore Pit: 34 linear feet Bedding Pit: 153 linear feet</p> <p>(f): Does not apply (g): Does not apply (h): As shown (i): 10 inch (j): 18 inch (k): 12 feet</p>							

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

- A. All activities involving utility line construction covered under the US Army Corps of Engineers NATIONWIDE PERMIT # 12 shall meet the following conditions:
 - 1. Utility Line Activities. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project. Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity.
 - 2. 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.
 - 3. Notification: The permittee must submit a pre-construction notification to the US Army Corps district engineer prior to commencing the activity if any of the following criteria are met: (1) The activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials.
- B. All activities involving utility line construction covered under KENTUCKY GENERAL CERTIFICATION of Nationwide Permit # 12 shall meet the following conditions:

The general Water Quality Certification applies to surface waters of the Commonwealth as defined in 401KAR10:001 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.

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. This general water quality certification does not authorize the installation of utility lines in a linear manner within the stream channel or below the top of the stream bank.
4. For a single crossing, impacts from the construction and maintenance corridor in surface waters shall not exceed 50 feet of bank disturbance.
5. This general certification shall not apply to nationwide permits issued for individual crossings which are part of a larger utility line project where the total cumulative impacts from a single and complete linear project exceed ½ acre of wetlands or 300 linear feet of surface waters. Cumulative impacts include utility line crossings, permanent or temporary access roads, headwalls, associated bank stabilization areas, substations, pole or tower foundations, maintenance corridor, and staging areas.
6. Stream impacts under Conditions 4 and 5 of this certification are defined as the length of bank disturbed. For the utility line crossing and roads, only one bank length is used in calculation of the totals.
7. 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).
8. 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.
9. Activities that do not meet the conditions of this General Water Quality Certification require an Individual Section 401 Water Quality Certification.
10. Blasting of stream channels, even under dry conditions, is not allowed under this general water quality certification.
11. Utility lines placed parallel to the stream shall be located at least 50 feet from an intermittent or perennial stream, measured from the top of the stream bank. The cabinet may allow construction within the 50 foot buffer if avoidance and minimization efforts are shown and adequate methods are utilized to prevent soil from entering the stream.

12. Utility line stream crossings shall be constructed by methods that maintain 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 excavation shall not be allowed to enter the flowing portion of the stream.
13. The activities shall not result in any permanent changes in pre-construction elevation contours in surface waters or wetlands or stream dimension, pattern or profile.
14. Utility line activities which impact wetlands shall not result in conversion of the area to non-wetland status. Mechanized land clearing of forested wetlands for the installation or maintenance of utility lines is not authorized under this certification.
15. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:
 - a. 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.
 - b. 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.
 - c. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
 - d. Removal of riparian vegetation shall be limited to that necessary for equipment access.
 - e. To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.
 - f. 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.
 - g. 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.
 - h. 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.
 - i. 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.

16. Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.

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 DUCTILE IRON PIPE AND FITTINGS

- A. Ductile iron pipe shall conform to ANSI/AWWA C151/A21.51, latest revision, pressure class 350, with push-on joints unless otherwise noted on Drawings.
- B. The interior of the pipe shall be cement-mortar lined with bituminous seal coat in accordance with ANSI/AWWA C104/A21.4, latest revision. Thickness of the lining shall be as set forth in the ANSI/AWWA C104/A21.4 specification unless otherwise directed by the Engineer. The exterior of all pipe, unless otherwise specified, shall receive either coal tar or asphalt base coating a minimum of 1 mil thick.
- C. Each piece of pipe shall bear the manufacturer's name or trademark, the year in which it was produced and the letters "DI" or the word "DUCTILE". Pipe manufacturer shall furnish notarized certificate of compliance to the above AWWA or ANSI specifications.
- D. Fittings shall be pressure class 350 ductile iron and have mechanical-joint ends in accordance with ANSI/AWWA C153/A21.53, latest revision. Compact ductile iron fittings shall conform to the details and dimensions shown therein. Fittings shall have interior cement-mortar lining as specified hereinbefore for the pipe. Full bodied fittings per ANSI/AWWA C110/A21.10, latest revision will also be acceptable.
- E. Joints for ductile iron pipe and fittings, as described hereinbefore, shall be rubber-gasket joints and be in accordance with ANSI/AWWA C111/A21.11, latest revision. Joints shall have the same pressure rating as the pipe or fitting of which they are a part. Joints shall be installed per the manufacturer's recommendations.
- F. Provide ANSI/AWWA C110/A21.10 mechanical joint plugs and locked or restrained pipe joints where indicated on Drawings. Fittings under structures shall be mechanical joint with retainer glands.

2.2 MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVC) PRESSURE PIPE

- A. PVC pipe shall be Ultra Blue as manufactured by JM Eagle, Los Angeles, CA. PVC pipe shall conform to AWWA C909 (Cast Iron OD pipe).
- B. AWWA C-909 Ultra Blue (Outside Diameter compatible with Cast Iron O.D.)
 - 1. 6-inch through 12-inch - PVC plastic pipe shall conform to ANSI/AWWA C-909, Pressure Class 235, Ultra Blue. PVC pipe shall have a maximum laying length of 20 feet, with bell end and elastomeric gasket, and with plain end for CIOD ductile-iron fittings. Elastomeric gasket shall conform with the requirements of ASTM F-477. The seal of the National Sanitation Foundation Testing Laboratory must appear on each pipe.
- C. Fittings shall be pressure class 350 ductile iron and have mechanical-joint ends in accordance with ANSI/AWWA C153/A21.53, latest revision. Compact ductile iron fittings shall conform to the details and dimensions shown therein. Fittings shall have interior cement-mortar lining as specified hereinbefore for the pipe. Full bodied fittings per ANSI/AWWA C110/A21.10, latest revision will also be acceptable.
- D. 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.
- E. 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.

2.3 MECHINCAL JOINT PIPE RESTRAINTS

- A. Restrained Follower Glands for Ductile Iron Pipe: Restraint for standard mechanical joint fittings on ductile iron pipe shall be incorporated in the design of the follower gland and shall utilize multiple wedge segments that act against the pipe, increasing their resistance as the line pressure increases. The assembled joint shall maintain the maximum flexibility and deflection of all nominal pipe sizes after burial. Restraining gland, wedge segments, and actuating bolts shall be manufactured of high strength ductile iron conforming to the requirements of ASTM A536, Grade 65-45-12. Wedge segments shall be heat treated to a hardness of 370 BHN minimum. Dimensions shall be compatible with standardized mechanical joints conforming to the requirements AWWA C111/ANSI A21.11 and AWWA C153/ANSI 21.53 (latest revision). Breakaway tops shall be incorporated in the design of the actuating bolts to visually ensure proper torque. The actuating bolts must assures precise and consistent operating torque of the breakaway top. The design of the restraining device shall be such that the gland body evenly bears the stress of the restraining load. The mechanical joint restraining devices shall have a minimum working pressure rating of 350psi for sizes 3''-12'' and 250psi for 14'' and larger and

provide no less than a safety factor of 2:1. Restraint shall be UL Listed and FM approved in applicable sizes.

- B. Restrained Follower Glands for Molecularly Oriented PVCO Pipe: Restraint for use on PVCO pipe shall be made specifically for use on PVCO pipe. The standard mechanical joint fittings shall be incorporated in the design of the follower gland and shall utilize multiple wedge segments that act against the pipe, increasing their resistance as the line pressure increases. The assembled joint shall maintain the maximum flexibility and deflection of all nominal pipe sizes after burial. Restraining gland, wedge segments, and actuating bolts shall be manufactured of high strength ductile iron conforming to the requirements of ASTM A536, Grade 65-45-12. Dimensions shall be compatible with standardized mechanical joints conforming to the requirements AWWA C111/ANSI A21.11 and AWWA C153/ANSI 21.53 (latest revision). Breakaway tops shall be incorporated in the design of the actuating bolts to visually ensure proper torque. The actuating bolts must positively assure precise and consistent operating torque of the breakaway top. The mechanical joint restraining devices shall have a working pressure rating of 200psi minimum and provide no less than a safety factor of 2:1. Restraint shall be FM approved in applicable sizes.
- C. All Thread Rod: Where indicated on the drawings or as directed by the Engineer, mechanical joint ends that are required to be restrained by use of all thread rods, shall be 3/4-inch in diameter and constructed of 304 stainless steel. Fastening nuts shall also be constructed of 304 stainless steel. Each joint shall be restrained with a minimum of 3 rods per joint.

2.4 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 -

<u>Dresser</u>	<u>Rockwell</u>
Style 138	4II

E. Transition couplings for joining pipe of different outside diameters-

<u>Dresser</u>	<u>Rockwell</u>
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.

<u>Dresser</u>	<u>Rockwell</u>
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)	

2.5 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:

<u>Type of Utility</u>	<u>Color Code</u>	<u>Legend</u>
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.

2.6 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 on 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 access boxes (test boxes). Access boxes shall be cast iron with a permanently attached 3” x 12” ABS tube with flared end. The access box shall have a tamper-resistant cast iron locking lid with stainless steel terminal connectors on the bottom side to attach the tracer wire. Access boxes shall be installed at a maximum of 500 linear feet apart, end of line, or where shown on the Drawings. Access box shall be Valvco as manufactured by Valvco, Inc., or approved equal
- D. Payment for tracer wire and access boxes 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

2.7 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 the provisions in KYTC Standard Specifications Section 601 and be Class B. Reinforcing bars shall be installed as indicated on details.

2.8 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.

2.9 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 STM 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). Service line tubing size 2-inch, shall be CTS DR-9 (250 psi). Casing tubing size 2-inch and 3-inch, shall be IPS DR-13.5 (160 psi).

2.10 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.
4. If the existing water meter has a pressure reducing valve, the Contractor shall install a new pressure reducing valve.

B. Service Lines Crossing 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 as shown on the Drawings.
5. If the existing water meter has a pressure reducing valve, the Contractor shall install a new pressure reducing valve.

2.11 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.

2.12 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 approved equal.

2.13 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 approved equal.

2.14 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.

2.15 METER BOX COVERS

- A. Meter box covers shall be purchased from Oldham County Water District.

2.16 COPPER SETTERS

- A. Meter setter shall be a copper setter as shown on the standard detail drawing on U35 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 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 STM B-575 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 house connection is made.

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. Crushed stone 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. Concrete 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 3.02 hereinafter.
- D. Minimum trench size shall be 2.5 times the nominal diameter of the pipe.
- 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 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	Cumulated % 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 (75µm)	3.7	89.8	10.2
Pan (0µm)	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.

- H. All pipe shall be laid with the manufacturer's proper markings (paragraph 2.2 G) facing directly up on the pipe, so as to visible for future excavation.

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 inches above the top of the pipe, shall be backfilled with manufactured sand, as specific 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 pipe. Compaction shall be accomplished by hand-tapping 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 inches above the top of the pipe, shall be backfilled with manufactured sand, as specific 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 pipe. Compaction shall be accomplished by hand-tapping 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 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 inches above the top of the pipe, shall be backfilled with manufactured sand, as specific 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 pipe. Compaction shall be accomplished by hand-tapping 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 KYTC Standard Specifications 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 shall be formed or be sufficiently stiff to maintain the forms 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 160 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 gauge and water meter for measuring water used during leakage test and 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 8-inch charts, and shall be approved by the Engineer.
- D. Pipelines shall be tested before backfilling at joints except where otherwise required by necessity or convenience.
- E. 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". One set of acceptable samples 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, 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-509 standard, and shall be of the resilient seat type, 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 24" depth of valve operating nut. Contractor must use extension stems, if necessary, to raise operator nut within 24" of final grade.

2.2 INSERTION VALVES

- A. The Insertion Valve 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 gridded 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 gridded (“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 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 2 feet shall be provided with stem extensions sufficient to raise operator nut to within 2 feet of finished grade.
- C. Valve boxes shall have extension stems, where necessary when operating nut is raised to be within 2 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.

2.4 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.
- C. 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.
- D. 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.

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.
- C. Steel reinforcing bars shall be ASTM A 625 Grade and epoxy coated.

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 FLUSH (POST) HYDRANTS

- A. Flush type fire hydrants shall comply, where applicable, to AWWA Standard C-502, latest revision. Flush type fire hydrants shall be of the compression type, with the main valve opening against the pressure and closing with the pressure. The main valve opening shall be 2-1/4" diameter. Flush type fire hydrants shall be of a dry barrel design.
- B. Flush type fire hydrants shall be rated at 150 psi water working pressure, tested at 300 pounds hydrostatic for structural soundness in the following manner; 300 pound hydrostatic test

supplied from the inlet side, first with the main valve closed for the testing of the valve seat; second, with the main valve open for testing of the drain valves and the hydrant barrel.

- C. Hydrants shall be constructed of ASTM A-126 Class B cast iron. The main valve of the hydrant shall be made of rubber.
- D. The bottom stem threads of the main valve rods shall be fitted with a cap nut for sealing the threads away from the water.
- E. Changes in size or shape of the waterway shall be accomplished by means of easy curves. Exclusive of the main valve opening, the net area of the waterway of the barrel and the foot piece at the smallest part shall not be less than 120% of that of the net opening of the main valve, except for hydrants with 2-1/4" valve opening.
- F. Hose and steamer caps shall be individually chained to the hydrant.
- G. The operating threads of the hydrant shall be so designed as to avoid the working of any iron or steel parts against either iron or steel. The operating stem and operating nut threads shall be square or acme type.
- H. Bonnet shall be weatherproof, free draining, and of a type that will maintain the operating mechanism in readiness for use under freezing conditions.
- I. The operating nut shall be provided with a convenient means to afford lubrication to insure ease of operating and the prevention of wear and corrosion. Hydrants shall be of dry barrel type. Hydrant shoe shall have two (2) positive acting non-corrodible drain valves that shall drain the hydrant completely by opening when the main valve is closed, and also to close tightly when the main valve is open.
- J. All like parts of hydrants of the same size and model produced by the same manufacturer shall be interchangeable.
- K. Hydrants shall open by turning to the left.
- L. Threads on hose and steamer nozzles shall be National Standard unless otherwise specified.
- M. Operating nuts and cap nuts shall conform to National Standard unless otherwise specified.
- N. Bury shall be 30" measuring depth from grade line to bottom of connecting pipe.
- O. Auxiliary shut-off (isolation) gate valves shall be of the same manufacturer as the hydrant when required.
- P. Hydrants with a 2", 2-1/4" 2-1/2", or 3" shoe (Style 333) shall be supplied with one 2-1/2" hose outlet. Hydrant assembly shall include a cast iron box and cover for installation flush with grade level.
- Q. The inside of all hydrants shall be coated in accordance with AWWA standards except for bronze and machined surfaces. Exterior on hydrant nozzle section shall be painted fire hydrant red (or as specified).

- R. Hydrant shoe shall have protective, thermosetting epoxy coating applied inside and out before assembly. Prior to application of coating, shoes shall be mechanically and chemically cleaned in compliance with SSPC Standards SP-5 and SP-8. A minimum average dry film thickness of 3 mils shall be applied on interior and exterior surfaces of hydrant shoe. Coating designation to be M&H 0271 epoxy and conform fully to AWWA C550-81, Section 3.
- S. Hydrants shall be marked with name of manufacturer, year of manufacture, and size.
- T. Hydrants shall be Mueller Post Type Fire Hydrant Model A-411.

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 FLUSH (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. Hydrants shall be set plumb and to the established grade.

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.

3.3 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.

3.4 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

Standard Sanitary Sewer Bid Item Descriptions

S BYPASS PUMPING This item shall include all labor, equipment, and materials needed to complete a bypass pumping and/or hauling operation for diversion of sewage during sanitary sewer construction. Examples of such operations when bypass pumping and/or hauling may be necessary is during force main tie-ins, manhole invert reconstruction, insertion of new manholes into existing mains, or other similar construction. There may be more than one bypass pumping/hauling operation on a project. This item shall be paid for each separate bypass pumping/hauling operation occurrence as called out on the plans or directed by the engineer and actually performed. There will be no separate bid items defined for length, duration, or volume of sewage pumped or hauled in each occurrence. If a bypass pumping/hauling operation is called out on the plans; but, conditions are such that the bypass pumping/hauling operation is not needed or utilized, no payment will be made under this item. The contractor shall draw his own conclusions as to what labor, equipment, and materials may be needed for each bypass pumping/hauling occurrence. The contractor should be prepared to handle the maximum volume of the sewer being bypassed, even during a storm event. This item shall not be paid separately, but shall be considered incidental, when bypass pumping and/or hauling is needed during cast-in-place-pipe (CIPP) and/or point repair operations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA).

S CIPP LATERAL SERVICE INVESTIGATION This item shall include all equipment, materials, labor and incidentals necessary to enter the sewer in compliance with all safety/confined space requirements and perform the identification, assessment and pre-measurement of all existing and abandoned laterals for the placement of Cured-In-Place-Pipe lining. This item shall be in payment for all lateral service investigation for all sewer segments to be lined as a part of this contract. This bid item shall include bypass pumping when required. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Payment for this item shall be LUMP SUM (LS).

S CIPP LATERAL REINSTATEMENT This item is to pay for installing a Cured-In-Place-Pipe liner in service laterals and service/mainline connections to stabilize structural defects and construction inadequacies. This bid item shall include all labor, equipment, materials and incidentals necessary to perform the service lateral reinstatement in accordance with the plans and specifications. Work under this item shall include sewer flow control, pre-installation cleaning, sealing connections to existing sewer main, pre- and post- construction CCTV inspection and final testing of the CIPP system. This item shall also include the "top hat" required by the specifications. All CIPP lateral reinstatements shall be paid under this item regardless of the size or length of reinstatement. No separate bid items of varying sizes or length of CIPP lateral reinstatement will be provided in the contract. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Payment for this item shall be EACH (EA) for each CIPP lateral reinstatement complete and ready for use.

S CIPP LINER This bid Item is to pay for rehabilitation of existing sanitary sewers using the Cured-In-Place-Pipe method. This bid item description applies to all CIPP sizes included in the contract.

All CIPP Liner items of all varying sizes shall include all labor, materials, customer notification, testing, necessary permits, ingress and egress procedures, bypass pumping, pre- construction video, sediment and root removal, dewatering, traffic control, erosion and sediment control, excavation pits, removal and replacement of manhole frames and covers as necessary to facilitate the lining work, sealing at manholes and service connections, clearing and grubbing, pipeline cleaning, re-cleaning and video inspection as many times as necessary, debris collection and disposal, root removal, pre- and post-construction video inspection, all digital inspection footage, final report preparation and approval, the cost of potable water from the Owner, required compliance tests, site restoration, site cleanup, sealing of liner at manholes, acceptance testing and all other rehabilitation work and incidentals not included under other pay items necessary to complete the rehabilitation per the plans and specifications. There will be no separate payment for acceptance testing of the lined pipe; but shall be considered incidental to this item. Pay under this item shall be by each size bid in the contract. Pay measurement shall be from center of manhole to center of manhole. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

S CIPP PROTRUDING LATERAL REMOVAL This item includes all equipment, materials, labor and incidentals necessary to enter the sewer in compliance with all safety/confined space requirements, remove a sufficient amount of the protruding tap to insure a proper and safe Cured-In-Place-Pipe lining insertion and perform pre-installation CCTV. This bid item shall include bypass pumping when required. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Payment for this item shall be EACH (EA) for each protruding lateral removed.

S CONCRETE PIPE ANCHOR This item shall be constructed on the sewer pipe at the locations shown on the plans in accordance with sanitary sewer specifications and standard drawings. Payment for concrete anchors will be made at the contract unit price each in place complete and ready for use. Each concrete anchor of sewer pipe or force main shall be paid under one bid item per contract regardless of the sizes of carrier pipe being anchored in the contract. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S DIRECTIONAL BORE Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized in order to minimize the impact of open cut for the installation of force main or gravity sewer under streets, creeks, and etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at each end of the bore when specified to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract regardless of size. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

S ENCASEMENT CONCRETE Includes all labor, equipment, excavation, concrete, reinforcing

steel, backfill, restoration, and etc., to construct the concrete encasement of the sewer or force main as shown on the plans, and in accordance with the specifications and standard drawings. Payment under this item shall be in addition to the carrier pipe as paid under separate bid items. Carrier pipe is not included in this bid item. Any and all concrete encasement shall be paid under one bid item included in the contract regardless of the size of the carrier pipe or the volume of concrete or steel reinforcement as specified in the plans and specifications. No separate bid items will be established for size variations. Measurement of pay quantity shall be from end of concrete to end of concrete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

S ENCASEMENT STEEL BORED This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to bore and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The sizes of encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

S ENCASEMENT STEEL OPEN CUT This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to open cut install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The size encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

S FORCE MAIN This description shall apply to all PVC and ductile iron and polyethylene/plastic pipe bid items of every size and type, except those bid items defined as “Special”. This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, backfill, and etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item includes material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. This item shall also include pipe anchors on polyethylene pipe runs as shown on the plans or required by the specifications to prevent the creep or contraction of the pipe. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

S FORCE MAIN AIR RLS/VAC VLV This bid item description shall apply to all force main air release/vacuum valve installations of every size except those defined as “Special”. This item shall include the air release/vacuum valve, main to valve connecting line or piping, manhole/vault/structure, access casting or doors, tapping the main, labor, equipment, excavation, proper backfill and restoration required to install the air release/vacuum valve at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. All air release/vacuum valves on a project shall be paid under one bid item regardless of size. No separate pay items will be established for size variations. Only in the case of the uniqueness of a particular air release/vacuum valve would a separate bid item be established. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S FORCE MAIN DIRECTIONAL BORE Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized in order to minimize the impact of open cut for the installation of sewer or force main under streets, buildings, creeks, and etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at each end of the bore when specified to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract regardless of size. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

S FORCE MAIN POINT RELOCATE This item is intended for payment for horizontal and/or vertical relocation of a short length of an existing main at the locations shown on the plans. This bid item is to be used to relocate an existing force main at point locations such as to clear a conflict at a

proposed drainage structure, pipe or any other similar short relocation situation, and where the existing pipe material is to be reused. The contractor shall provide any additional pipe or fitting material needed to complete the work as shown on the plans and specifications. The materials provided shall be of the same type and specification as those that exist. Substitution of alternative materials shall be approved by the engineer in advance on a case by case basis. New polyethylene wrap is to be provided (if wrap exists or is specified in the specifications to be used). If it is necessary that the pipe be disassembled for relay, payment under this item shall also include replacement of joint gaskets as needed. Bedding and backfill shall be provided and performed the same as with any other pipe installation as detailed in the plans and specifications. Payment under this item shall be for each location requiring an existing main to be relocated horizontally or vertically regardless of pipe size or relocation length. No separate pay items will be established for pipe size variations or relocation segment length variations. Force Main Relocate shall not be paid on a linear feet basis; but shall be shall be paid EACH (EA) at each location when complete and placed in service. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

S FORCE MAIN TAP SLEVE/VALVE RANGE 1 OR 2 This item shall include the specified tapping sleeve, valve, valve box, concrete pad around valve box (when required in specifications or plans), labor, and equipment to install the specified tapping sleeve and valve, complete and ready for use in accordance with the plans and specifications. The size shall be the measured internal diameter of the live pipe to be tapped. The size tapping sleeve and valve to be paid under sizes 1 or 2 shall be as follows:

- Range 1 = All live tapped main sizes up to and including 8 inches
- Range 2 = All live tapped main sizes greater than 8 inches

Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S FORCE MAIN TIE-IN This bid description shall be used for all force main tie-in bid items of every size except those defined as "Special". This item includes all labor, equipment, excavation, fittings, sleeves, reducers, couplings, blocking, anchoring, restoration, testing and backfill required to make the force main tie-in as shown on the plans and in accordance with the specifications complete and ready for use. This bid item shall include purge and sanitary disposal of any sewage from any abandoned segments of force main. Pipe for tie-ins shall be paid under separate bid items. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S FORCE MAIN VALVE This description shall apply to all force main valves of every size required in the plans and specifications, except those bid items defined as "Special". Payment under this description is to be for gate or butterfly force main valves being installed with new force main. This item includes the valve as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), valve box and valve stem extensions, backfill, concrete pad around valve box (if required by specification), restoration, testing, and etc., required to install the specified valve at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, force main valves shall be restrained. Force main valve restraint shall be considered incidental to the force main valve and adjoining pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be

referenced. This item shall be paid EACH (EA) when complete.

S FORCE MAIN VALVE BOX ADJUST Includes all labor, equipment, valve box and valve stem extensions (if required), excavation, backfill, concrete pad around valve box (when specified in specifications or plans), restoration, and etc., to adjust the top of the force main valve box to finished grade complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S LATERAL CLEANOUT This item shall be for payment for installation of a cleanout in a service lateral line. This item shall include furnishing and installation of a tee, vertical pipe of whatever length required, and threaded cap. The cleanout shall extend from the lateral to final grade elevation. The size of the cleanout shall be equivalent to the size of the lateral. The cleanout materials shall meet the same specification as those for the lateral. The cleanout shall be installed at the locations shown on the plans or as directed by the engineer. Only one pay item shall be established for cleanout installation. No separate pay items shall be established for size or height variances. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S LATERAL LONG SIDE This bid item description shall apply to all service lateral installations of every size up to and including 6 inch internal diameter, except those lateral bid items defined as "Special". This item includes the specified piping material, main tap, bends, clean outs, labor, equipment, excavation, backfill, testing, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service lateral installations where the ends of the lateral connection are on opposite sides of the public roadway. The new lateral must cross the centerline of the public roadway to qualify for payment as a long side lateral. The length of the service lateral is not to be specified. Payment under this item shall not be restricted by a minimum or maximum length. The contractor shall draw his own conclusions as to the length of piping that may be needed. Payment under this item shall include boring, jacking, or excavating across the public roadway for placement. Placement of a service lateral across a private residential or commercial entrance alone shall not be reason to make payment under this item. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S LATERAL SHORT SIDE This bid item description shall apply to all service lateral installations of every size up to and including 6 inch, except those lateral bid items defined as "Special". This item includes the specified piping material, main tap tee, bends, clean outs, labor, equipment, excavation, backfill, testing, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for lateral installations where both ends of the lateral connection are on the same side of the public roadway, or when an existing lateral crossing a public roadway will remain and is being extended, reconnected, or relocated with all work on one side of the public roadway centerline as shown on the plans. The length of the service lateral is not to be specified and shall not be restricted to any minimum or maximum length. Payment shall be made under this item even if the lateral crosses a private residential or commercial entrance; but, not a public roadway. Private or commercial

entrances shall not be considered a public roadway in defining payment under this item. The contractor shall draw his own conclusions as to the length of piping that may be needed. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S LINE MARKER This item is for payment for furnishing and installing a ground level sewer utility line marker as specified by the utility owner specifications and plans. A line marker may consist of a post or monument of whatever materials specified and shall include markings and/or signage on same as specified by plans or specifications. This item shall include all labor, equipment, and materials needed for complete installation of the marker. This item shall be paid EACH (EA) when complete.

S MANHOLE Payment under this item is for the installation of new 4 foot interior diameter sanitary sewer manhole. Payment for manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Manholes shall include concrete base, barrel sections, cone section or slab top, steps, excavation, backfilling, air testing, restoration, and cleanup in accordance with the specifications and standard drawings. All materials, except casting, shall be new and unused. An existing casting from an existing abandoned or removed manhole is to be reused and shall be considered incidental to this item. When a new casting is specified, or an existing casting is unavailable, it shall be paid as a separate bid item. Anchoring of casting, new or used, shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S MANHOLE ABANDON/REMOVE Payment under this item is for the partial removal and/or filling of any sanitary sewer manhole regardless of size or depth that no longer serves any purpose. Payment shall be made regardless of whether the manhole is or is not in conflict with other work. Any manhole requiring partial removal, but not total removal, in order to clear a conflict with other work shall be paid under this item. All manholes partially removed shall be removed to a point at least one foot below final grade, one foot below roadway subgrade, or one foot clear of any other underground infrastructure, whichever is lowest. If partial removal of an abandoned manhole is elected by the contractor, the remaining manhole structure shall be refilled with flowable fill. Payment for disposal of a sanitary sewer manhole will be made under this item only. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S MANHOLE ADJUST TO GRADE Payment under this item is for the adjustment of sanitary sewer casting elevation on all sizes of existing sanitary manholes. This work shall be performed in accordance with the sanitary sewer specifications. Payment shall be made under this bid item regardless of the amount of adjustment necessary to a sanitary sewer manhole casting or diameter of the manhole. Work under this pay item may be as simple as placing a bed of mortar under a casting; but, shall also be inclusive of installation of adjusting rings, and /or addition, removal, or replacement of barrel sections. The existing casting is to be reused unless a new casting is specified on the plans. New casting, when specified, shall be paid as a separate bid item. Anchoring of the casting shall be incidental to this item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA)

when complete.

S MANHOLE CASTING STANDARD Payment under this bid items is for furnishing of a new standard traffic baring casting for sanitary manholes meeting the requirements of the sanitary sewer specifications and standard drawings. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when installed.

S MANHOLE CASTING WATERTIGHT Payment under this bid item is for furnishing of a new watertight traffic baring casting for sanitary manholes meeting the requirements of the sanitary sewer specifications and standard drawings. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when installed.

S MANHOLE RECONSTRUCT INVERT This bid item is to pay for all labor, equipment, and material for rework of the manhole bench to redirect or eliminate flow, such as when the flow of a pipe or pipes are being removed or redirected. This work will be as specified in the plans, specifications, or directed by the engineer. This work may consist of, but is not limited to, removal of concrete and/or placement of concrete in elimination or redirect of flow. This item shall also include providing and placement of a rubber seal or boot as required by utility specification, standard drawing or plan. The contractor shall draw his own conclusions as to the effort and scope of work needed to comply with the specifications, standard drawings, and plans. No payment shall be made under this bid when MANHOLE TAP EXISTING, or MANHOLE TAP EXISTING ADD DROP are being paid at the same location, as this type of work is included in those items. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S MANHOLE TAP EXISTING This bid item is to pay for all labor, equipment, and material for coring one opening in an existing manhole base, addition of a rubber seal as specified, and rework of the manhole bench to direct the additional pipe flow. The bid item shall be paid for each core opening added to a single manhole. This bid item shall also include any rework of the existing manhole bench due to the elimination of other existing pipes and flow. This work will be as specified in the plans, specifications, or directed by the engineer. This work may consist of, but is not limited to, removal of concrete and/or placement of concrete in the addition, elimination, or redirect of flow. The contractor shall draw his own conclusions as to the effort and scope of work needed to comply with the specifications, standard drawings, and plans. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S MANHOLE TAP EXISTING ADD DROP This bid item is to pay for all labor, equipment, and material for coring one opening in an existing manhole base, addition of a rubber seal as specified, addition of a vertical drop pipe to the outside of the manhole, placement of reinforcing steel and concrete to encase vertical pipe, and rework of the manhole bench to direct the additional pipe flow. The bid item shall be paid for each drop added to a single manhole. This bid item shall also include any rework of the existing manhole bench due to the elimination of other existing pipes and flow. This work will be as specified in the plans, specifications, or directed by the engineer. This work may consist of, but is not limited to, removal of concrete and/or placement of concrete in the addition, elimination, or redirect of flow. The contractor shall draw his own conclusions as to the effort and

scope of work needed to comply with the specifications, standard drawings, and plans. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S MANHOLE WITH DROP Payment under this item is for the installation of new 4 foot interior diameter sanitary sewer manhole with drop. Payment for drop manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Drop manholes shall include concrete base, barrel sections, drop materials, cone section or slab top, steps, excavation, backfilling, air testing, restoration, and cleanup. All materials, except casting, shall be new and unused. An existing casting from an existing abandoned or removed manhole is to be reused and shall be considered incidental to this item. When a new casting is specified, or an existing casting is unavailable, it shall be paid as a separate bid item. Anchoring of casting, new or used, shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S MANHOLE WITH LINING Payment under this item is for the installation of new 4 foot interior diameter sanitary sewer manhole with corrosion resistant lining. Payment for manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Manholes shall include concrete base, barrel sections, cone section or slab top, steps, lining, excavation, backfilling, air testing, restoration, and cleanup in accordance with the standard drawings. All materials, except casting, shall be new and unused. An existing casting from an existing abandoned or removed manhole is to be reused and shall be considered incidental to this item. When a new casting is specified, or an existing casting is unavailable, it shall be paid as a separate bid item. Anchoring of casting, new or used, shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S MANHOLE WITH TRAP Payment under this item is for the installation of a new manhole with trap. Payment for trap manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Trap manholes shall include concrete base, manhole structure and trap materials, cone section or slab top, steps, excavation, backfilling, air testing, restoration, and cleanup. All materials, except casting, shall be new and unused. An existing casting from an existing abandoned or removed manhole is to be reused and shall be considered incidental to this item. When a new casting is specified, or an existing casting is unavailable, it shall be paid as a separate bid item. Anchoring of casting, new or used, shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S PIPE This description shall apply to all PVC and ductile iron gravity sewer pipe bid items of every size and type 8 inches internal diameter and larger, except those bid items defined as "Special". This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to,

tap tees and couplings for joining to existing similar or dissimilar pipes), polyethylene wrap (if required by specification), labor, equipment, excavation, bedding, restoration, pressure or vacuum testing, temporary testing materials, video inspection, backfill, and etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. This bid item shall include material and placement of flowable fill under existing and proposed pavement, and wherever specified on the plans or in the specifications. No additional payment will be made for rock excavation. Measurement of quantities under this item shall be through fittings and encasements to a point at the outside face of manhole barrels, or to the point of main termination at dead ends or lamp holes. Carrier pipe placed within an encasement shall be paid under this item and shall include casing spacers and end seals. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

S PIPE POINT REPAIR This item is to be used to pay for repair of short lengths of existing sanitary sewer pipe that, through prior video inspection or other means, are known to have pre-existing failure. Pipe Point Repair may be needed in preparation for installation of cured-in-place-pipe (CIPP) lining or other instances where failure is known and repair is prudent. The size of pipe shall not be defined in separate bid items. All diameter sizes of point repair shall be paid under this one item. The materials to be used to make the repair shall be as defined on the plans or in the specifications. This bid item shall include all excavation, pipe materials, joining materials to connect old and new pipe, bedding, and backfill to complete the repair at the locations shown on the plans or as directed by the engineer, complete and ready for use. This bid item shall include bypass pumping when required. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA).

S PUMP STATION This item is for payment for installation of sanitary pump stations including above or below ground structure for housing of the pumps. This item shall include all pumps, piping, fittings, valves, electrical components, building materials, concrete, any other appurtenances, labor, equipment, excavation, and backfill, to complete the pump station installation as required by the plans, standard drawings, and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LUMP SUM (LS) for each when complete.

S STRUCTURE ABANDON This item is to be used to pay for abandonment of larger above or below ground sewer structures such as air release/vacuum valve vaults, pump stations, tanks, etc. Payment under this time shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to sewer construction, (i.e., abandonment of standard air release/vacuum valves up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted fill or flowable fill for abandonment of the structure in place and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

S STRUCTURE REMOVAL This item is to be used to pay for removal of larger above or below ground sewer structures such as air release/vacuum valve vaults, pump stations, tanks, and etc. Payment under this time shall not be limited to size or scope; however, structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to sewer

construction, (i.e., removal of standard air release/vacuum valves and their structure up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted backfill for removal of the structure and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS



Oldham County Environmental Authority

KY 393 Sanitary Sewer Relocation

Buckner, Kentucky

KYTC Item No. 5-234-10

October 2015

AS BID DOCUMENT

OLDHAM COUNTY ENVIRONMENTAL AUTHORITY

KY 393 SANITARY SEWER RELOCATION

Item No. **5-234.10** SHEET NOS. **U1-U3**

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OLDHAM COUNTY ENVIRONMENTAL AUTHORITY

BID PROPOSAL
FOR
CONTRACT NO. _____

KY 393 SANITARY SEWER RELOCATION

Item No. 5-234.10 SHEET NOS. U1-U3

ITEM 1. S PIPE SPECIAL (18" SANITARY PIPE)

S PIPE SPECIAL (18" SANITARY PIPE) This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, tap tees and couplings for joining to existing similar or dissimilar pipes), polyethylene wrap (if required by specification), labor, equipment, excavation, bedding, restoration, pressure or vacuum testing, temporary testing materials, video inspection, backfill, etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. This bid item shall include material and placement of flowable fill under existing and proposed pavement, and wherever specified on the plans or in the specifications. No additional payment will be made for rock excavation. Measurement of quantities under this item shall be through fittings and encasements to a point at the outside face of manhole barrels, or to the point of main termination at dead ends or lamp holes. Carrier pipe placed within an encasement shall be paid under this item and shall include casing spacers and end seals. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. . Paid LINEAR FEET (LF)

ITEM 2. S ENCASUREMENT STEEL OPEN CUT RANGE 6

S ENCASUREMENT STEEL OPEN CUT This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to open cut install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The size encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid LINEAR FEET (LF)

ITEM 3. S MANHOLES

S MANHOLE Payment under this item is for the installation of new 4 foot interior diameter sanitary sewer manhole. Payment for manholes will be made at the contract unit price each in place complete and ready for use at the locations shown on plans in accordance with specifications and standard drawings. Manholes shall include concrete base, barrel sections, cone section or slab top, steps, excavation, backfilling, air testing, restoration, and cleanup in accordance with the specifications and standard drawings. All materials shall be new and unused. Anchoring of casting shall be considered incidental to this bid item. No additional compensation will be paid for manhole height variations. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

ITEM 4. S MANHOLE RECONSTRUCT INVERT

S MANHOLE RECONSTRUCT INVERT This bid item is to pay for all labor, equipment, and material for rework of the manhole bench to redirect or eliminate flow, such as when the flow of a pipe or pipes are being removed or redirected. This work will be as specified in the plans, specifications, or directed by the engineer. This work may consist of, but is not limited to, removal of concrete and/or placement of concrete in elimination or redirect of flow. This item shall also include providing and placement of a rubber seal or boot as required by utility specification, standard drawing or plan. The contractor shall draw his own conclusions as to the effort and scope of work needed to comply with the specifications, standard drawings, and plans. No payment shall be made under this bid when MANHOLE TAP EXISTING, or MANHOLE TAP EXISTING ADD DROP are being paid at the same location, as this type of work is included in those items. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

ITEM 5. S MANHOLE ABANDON/REMOVE

S MANHOLE ABANDON/REMOVE Payment under this item is for the partial removal and/or filling of any sanitary sewer manhole regardless of size or depth that no longer serves any purpose. Payment shall be made regardless of whether the manhole is or is not in conflict with other work. Any manhole requiring partial removal, but not total removal, in order to clear a conflict with other work shall be paid under this item. All manholes partially removed shall be removed to a point at least one foot below final grade, one foot below roadway subgrade, or one foot clear of any other underground infrastructure, whichever is lowest. If partial removal of an abandoned manhole is elected by the contractor, the remaining manhole structure shall be refilled with flowable fill. Payment for disposal of a sanitary sewer manhole will be made under this item only. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. Paid EACH (EA) when complete.

Quantities are not guaranteed. Final payment will be based on actual quantities.

BID PROPOSAL

Bid Date:

Record No. **KY 393 SANITARY SEWER RELOCATION**
 Item No. 5-234.10

Item No.	Description	Quantity	Units	Unit Cost	Total Cost
1	S PIPE SPECIAL (18" SANITARY PIPE)	926	LF		
2	S ENCASEMENT STEEL OPEN CUT RANGE 6	220	LF		
3	S MANHOLES	2	EA		
4	S MANHOLES RECONSTRUCT INVERT	2	EA		
5	S MANHOLE ABANDON / REMOVE	2	EA		
Total =					

Legale Entity, Bidder _____
 By (Sign Here) _____
 Title _____
 Address _____

GENERAL UTILITY NOTES AND INSTRUCTIONS APPLICABLE TO ALL UTILITY WORK MADE A PART OF THE ROAD CONSTRUCTION CONTRACT

The contractor should be aware the following utility notes and Standard KYTC Utility Bid Item Descriptions shall supersede, replace and take precedence over any and all conflicting information that may be contained in utility owner supplied specifications contained in the contract, on plans supplied by the utility owner, or any utility owner specifications or information externally referenced in this contract.

Where information may have been omitted from these notes, bid item descriptions, utility owner supplied specifications or plans; the KYTC Standard Specifications For Road and Bridge Construction shall be referenced.

PROTECTION OF EXISTING UTILITIES

The existing utilities shown on the plans are shown as best known at the time the plans were developed and are to be used as a guide only by the Contractor. The Contractor shall use all means at his disposal to accurately locate all existing utilities, whether shown on the plans or not, prior to excavation. The contractor shall protect these utilities during construction. Any damage to existing utilities during construction that are shown or not shown on the plans shall be repaired at the Contractor's expense.

PREQUALIFIED UTILITY CONTRACTORS

Some utility owners may require contractors that perform relocation work on their respective facilities as a part of the road contract be prequalified or preapproved by the utility owner. Those utility owners with a prequalification or preapproval requirement are as follows:

"No contractors are required to be prequalified or preapproved by the utility owner(s) to perform utility relocation work under this contract.")

The bidding contractor needs to review the above list and look for a list of preapproved or prequalified contractors at the end of these general notes as identified above before bidding. Only contractors shown to be prequalified or preapproved by the utility owner on the following list(s) will be allowed to work on that utility as a part of this contract.

Any utility contractor that is not listed as prequalified or preapproved when the project is advertised for bid and wishes to be added must make request through the KYTC Contract Procurement website. The request should be made at least one week prior to the bidding deadline to allow for review and posting on the KYTC Contract Procurement website. A contractor is only considered prequalified or preapproved when published on the KYTC Contract Procurement website. Contractors that contact the utility owner directly for preapproval or prequalification without contacting KYTC will not be considered for preapproval or prequalification for this contract. Contractors that are not prequalified or preapproved through

KYTC before the bidding deadline will not be considered for prequalification or preapproval after bidding.

CONTRACT ADMINISTRATION RELATIVE TO UTILITY WORK

All utility work is being performed as a part of a contract administered by KYTC; there is not a direct contract between the utility contractor and utility owner. The KYTC Section Engineer is ultimately responsible for the administration of the road contract and any utility work included in the contract.

SUBMITTALS AND CORRESPONDENCE

All submittals and correspondence of any kind relative to utility work included in the road contract shall be directed to the KYTC Section Engineer, a copy of which may also be supplied to the utility owner by the contractor to expedite handling of items like material approvals and shop drawings. All approvals and correspondence generated by the utility owner shall be directed to the KYTC Section Engineer. The KYTC Section Engineer will relay any approvals or correspondence to the utility contractor as appropriate. At no time shall any direct communication between the utility owner and utility contractor without the communication flowing through the KYTC Section Engineer be considered official and binding under the contract.

ENGINEER

Where the word "Engineer" appears in any utility owner specifications included in this proposal, utility owner specifications included to be a part of this contract by reference or on the utility relocation plans, it shall be understood the "Engineer" is the Kentucky Transportation Cabinet (KYTC) Section Engineer or designated representative and the utility owner engineer or designated representative jointly. Both engineers must mutually agree upon all decisions made with regard to the utility construction. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

INSPECTOR OR RESIDENT PROJECT REPRESENTATIVE

Where the word "Inspector" or "Resident Project Representative" appears in the utility specifications included in this proposal, utility owner specifications included to be a part of this contract by reference or on the utility relocation plans, it shall be understood the "Inspector" or "Resident Project Representative" is the utility owner inspector and KYTC inspector jointly. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

NOTICE TO UTILITY OWNERS OF THE START OF WORK

One month before construction is to start on a utility, the utility contractor shall make notice to the KYTC Section Engineer and the utility owner of when work on a utility is anticipated to start.

The utility contractor shall again make confirmation notice to the KYTC Section Engineer and the utility owner one week before utility work is to actually start.

UTILITY SHUTDOWNS

The Contractor shall not shut down any active and in-service mains, utility lines or services for any reason unless specifically given permission to do so by the utility owner. The opening and closing of valves and operating of other active utility facilities for main, utility line or utility service shut downs are to be performed by the utility owner unless specific permission is given to the contractor by the owner to make shutdowns. If and when the utility owner gives the contractor permission to shutdown mains, utility lines or utility services, the contractor shall do so following the rules, procedures and regulations of the utility owner. Any permission given by the utility owner to the contractor to shutdown active and in-service mains, utility lines or services shall be communicated to the KYTC Section Engineer by the utility owner that such permission has been given.

Notice to customers of utility shut downs is sometimes required to be performed by the utility contractor. The contractor may be required; but, is not limited to, making notice to utility customers in a certain minimum amount of time in advance of the shut down and by whatever means of communication specified by the utility owner. The means of communication to the customer may be; but is not limited to, a door hanger, notice by newspaper ad, telephone contact or any combination of communication methods deemed necessary, customary and appropriate by the utility owner. The contractor should refer to the utility owner specifications for requirements on customer notice.

Any procedure the utility owner may require the contractor to perform by specification or plan note and any expense the contractor may incur to comply with the utility owner's shut down procedure and notice to customers shall be considered an incidental expense to the utility construction.

STATIONS AND DISTANCES

All stations and distances, when indicated for utility placement in utility relocation plans or specifications, are approximate; therefore, some minor adjustment may have to be made during construction to fit actual field conditions. Any changes in excess of 6 inches of plan location shall be reviewed and approved jointly by the KYTC Section Engineer or designated representative and utility owner engineer or designated representative. Changes in location without prior approval shall be remedied by the contractor at his own expense if the unauthorized change creates an unacceptable conflict or condition.

(USE THE FOLLOWING NOTES ON PROJECTS WHERE THE UTILITY COMPANY IS PROVIDING THE BASE MATERIAL FOR UTILITY RELOCATION-WHERE "INST" ITEMS ARE IN THE CONTRACT)

MATERIAL ([this section not used](#))

Contrary to Standard Utility Bid Item Descriptions those bid items that have the text “Inst” at the end of the bid item will have the major components of the bid item provided by the utility owner. No direct payment will be made for the major material component(s) supplied by the utility company. All remaining materials required to construct the bid item as detailed in utility bid item descriptions, in utility specifications and utility plans that are made a part of this contract will be supplied by the contractor. The contractor’s bid price should reflect the difference in cost due to the provided materials.

The following utility owners have elected to provide the following materials for work under this contract:

*(List here utility owner name(s) and specific materials that will be provided to the contractor. If there are some utility owners that will be supplying materials and others that will not, it may be prudent to also list each utility owner that will not be supplying materials for clarity of the contract. If no utility owner intends to supply materials, the following statement shall be placed here: “**No materials are being supplied by the utility owner(s). All materials are to be supplied by the contractor per bid item descriptions, utility specifications and utility plans.**”)*

SECURITY OF SUPPLIED MATERIALS (this section not used)

If any utility materials are to be supplied by the utility owner, it will be the responsibility of the utility contractor to secure all utility owner supplied materials after delivery to the project site. The utility contractor shall coordinate directly with the utility owner and their suppliers for delivery and security of the supplied materials. Any materials supplied by the utility owner and delivered to the construction site that are subsequently stolen, damaged or vandalized and deemed unusable shall be replaced with like materials at the contractor’s expense.

RESTORATION

Temporary and permanent restoration of paved or stone areas due to utility construction shall be considered incidental to the utility work. No separate payment will be made for this work. Temporary restoration shall be as directed by the KYTC Section Engineer. Permanent restoration shall be “in-kind” as existing.

Restoration of seed and sod areas will be measured and paid under the appropriate seeding and sodding bid items established in the contract for roadway work.

OLDHAM COUNTY ENVIRONMENTAL AUTHORITY

SPECIAL PROVISIONS
FOR
CONTRACT NO. _____

KY 393 SANITARY SEWER RELOCATION

Item No. **5-234.10** SHEET NOS. **U1-U3**

S PIPE SPECIAL (18" SANITARY PIPE)

For providing all labor, equipment, and materials, for unclassified excavation, rock excavation and removal, including sheeting and bracing; trench dewatering; furnishing; installing pipe, fittings, crushed stone, backfill, testing; furnishing and installing plugs and stoppers including temporary water tight seals to protect against flooding; for removal and disposal of existing 18" sanitary sewer pipe, for handling flow in the existing 18" sewer, trenches, ditches and drains; protecting and removing trees, shrubs and vegetation; pavement utility cut, protecting removing and/or replacing sidewalks, driveways and curb and gutter, unless identified as a bid item; setting and removing temporary fences; removing and resetting or replacing existing fences, drainage features, ditches, culverts, drain pipes, swales, ground surfaces and grassed areas; temporarily moving and replacing existing signs and mail boxes; removal and disposal of surplus soils and materials; clean up; providing protection and support of other utilities during construction, including concrete caps or encasement over 18" sanitary sewer (where required); restoring all ephemeral/intermittent stream crossings; and all other items not listed as bid items that are necessary to construct the Sanitary Sewer in accordance with the Contract. 18" Sanitary Sewer shall be paid for at the contract bid price per linear foot installed.

S ENCASEMENT STEEL OPEN CUT RANGE 6

For providing all labor, equipment, and materials necessary to construct 30-inch steel casing pipe by open cut method including steel casing pipe, gaskets, pipe spacers, placement of granular material between casing and carrier pipe in accordance with MSD standard specifications and standard drawings, unclassified excavation, rock excavation and removal, including sheeting and bracing; trench dewatering, shoring, backfill and compaction, filling of voids, grading, restoration of ground surfaces and Restoration of pavement in accordance with Kentucky Transportation Department Standard Drawings and specifications, and all other work necessary to complete the road crossing in accordance with the Contract. 30-inch steel casing pipe shall be paid for at the contract bid price per linear foot installed.

S MANHOLES

For furnishing all equipment, labor and materials for constructing and placing MSD 4' Diameter –Type 1 manholes consisting of precast bases, walls and top slab, riser barrels, cones, collars, chimney seals, steps, new castings and lids, pipe to manhole connection seals, unclassified excavation; removal and disposal of surplus soils and materials, rock excavation and removal, sheeting and bracing, dewatering, crushed stone, backfill, vacuum testing, and any other items necessary to complete the manhole in accordance with the Contract. 4' Diameter –Type 1 manhole shall be paid for at the contract bid price per Each installed.

S MANHOLE RECONSTRUCT INVERT

For furnishing all equipment, labor and materials for remodeling existing manholes to receive new 18" sewer pipe, removal of existing 18" sanitary sewer from manholes, removal of existing seals, grout and manhole concrete as required to receive new 18" Sanitary sewer, forming, placement of new concrete, grout and seals ; removal and disposal of surplus soils, concrete and materials, sheeting and bracing, dewatering, crushed stone, backfill, vacuum testing, and any other items necessary to complete manhole reconstruct in accordance with the Contract. Manhole reconstruct invert shall be paid for at the contract bid price per Each installed.

S MANHOLE ABANDON/REMOVE

Where called out on the plans" remove sanitary manhole" the manhole will be completely removed and disposed of off the project site. All costs associated with the removal and disposal of the manholes are incidental to the bid item S MANHOLE ABANDON REMOVE.

Standard Electric and Communications Bid Item Descriptions

BOLLARDS This item is for payment for furnishing and installing protective guard posts at above ground utility installations. A bollard may consist of, but not limited to, a steel post set in concrete or any other substantial post material. This item shall include all labor, equipment, and materials needed for complete installation of the bollard as specified by the utility owner specifications and plans. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item paid EACH (EA) when complete.

NOTE: A bid code for this item has been established in standard roadway bid items and shall be used for payment of this item. The bid code is 2134IND.

EC DUCT These items shall include all labor, equipment, and material to excavate, install, and backfill the specified bank of duct at locations shown in the plans in accordance with the specifications and standard drawings complete and ready for use. These bid items shall include all necessary appurtenances, connections, fittings, plugs, tees, bends, collars, racks or spacers, pull string, granular or concrete encasement, compacted earth or flowable fill backfill, and etc. Flowable fill, where specified on the plans and specifications, shall be considered incidental to the duct items. No separate payment will be made for flowable fill, unless directed to be used contrary to plans and specifications. All excavation shall be unclassified. No additional payment will be made for rock excavation. Duct shall be measured as the horizontal distance from outside face of structure to outside face of structure; or, to the point of duct termination at dead ends or poles. No additional payment will be made for vertical conduit. No separate bid items will be provided due to varying duct sizes. Any and all duct sizes and configurations shall be paid under these items. The only variations in bid items shall be in the number of duct in a bank and if the duct is or is not to be concrete encased. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF).

EC ELECTRIC MANHOLE, ELECTRIC PIT, ELECTRIC PULL BOX, COMMUNICATIONS MANHOLE, COMMUNICATIONS PULL BOX These items shall include all labor, equipment, excavation, materials, and backfill to install the specified manhole, pit, or pull box at the locations as shown on the plans in accordance with the specifications and standard drawings complete and ready for use. No separate bid items will be provided for varying sizes of structures. All structures shall be paid under the appropriate bid item regardless of size. Where structures are specified to be backfilled with flowable fill, the cost of the flowable fill shall be considered incidental to the bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

EC LINE MARKER This item is for payment for furnishing and installing a ground level electric or communications utility line marker as specified by the utility owner specifications and plans. A line marker may consist of a post or monument of whatever materials specified and shall include markings and/or signage on same as specified by plans or specifications. This item shall include all labor, equipment, and materials needed for complete installation of the marker. This item shall be paid EACH (EA) when complete.

**Kentucky Transportation Cabinet
Jefferson County
Item 5-234.10
KY 393 Breakout Section**

AT&T Kentucky

**Supplementary Specifications
For**

AT&T Kentucky Buried Conduit Installation
To be constructed as part of
KYTC's – KY 393 Breakout Project

Project Summary

AT&T Kentucky to place buried conduit under KY 393 in Right-of-Way as part of the roadway contract (Item 5-234.10). The roadway contractor will only be responsible for construction of the conduit run itself. At the time of construction, AT&T Kentucky will supply all materials necessary for the construction of the proposed facilities. With respect to facilities within the new ducts, this will be handled by others.

- See Construction Plans – Sheet U-39

Scope of Work

1. **A new multi-duct (2) formation will be constructed under this contract.**
2. The new section of duct bank is to be constructed concurrent with the construction of the proposed roadway. The horizontal location is identified on the plans. Several items to consider:
 - The new section of duct bank will begin at the proposed manhole (MH A) centered at Station 340+36 Lt. 98' and continue to the proposed manhole (MH B) centered at Station 13+11 Rt. 71'
 - The new section of duct bank will be constructed via open trench installation.
 - The new duct bank will maintain forty-eight (48) inches of minimum cover.
 - Cap all duct ends for the new ducts installed.
3. As noted, the new duct bank is for future use. **The contractor will not be responsible for installing new cable within the proposed duct run, but will be**

responsible for installing a pulling wire inside each duct so as to accommodate the pulling of the future cables.

Construction of the proposed conduit shall be performed in accordance with the AT&T Kentucky Telecommunications drawings showing plan, profile (where specified), and typical details.

Method of Measurement

Plastic telephone conduit of specified duct configuration will be measured in linear feet along the centerline of the duct run.

Basis of Payment

Payment will be made at the contract unit price for each duct configuration and/or encasement. Estimated quantities are identified on the "**Utility Summary – Telephone (AT&T Kentucky) Utility Relocation**" provided in the plan set.

Contractor is alerted that AT&T Kentucky will provide materials. See paragraph 3 of the specification section below.

Contractor is to perform all work required to build the conduit system including excavation, placement, encasement, backfilling and surface restoration. In addition to Kentucky Transportation Cabinet Resident Engineer, telephone facility construction will also be inspected by the AT&T Kentucky Contract Supervisor. Conduit cannot be covered until inspected by an AT&T Kentucky inspector.

Specifications

- 1) Construction of conduit will be in accordance with the following AT&T and AT&T Kentucky System Practices:

AT&T Practice 622-020-020
Conduit and Manhole Construction

AT&T Practice 622-020-100
Conduit and Conduit Couplings

AT&T Kentucky System Practice 622-100-010
Conduit and Manhole Precautions

AT&T Kentucky System Practice 622-640-201
C Plastic Polyvinyl Chlorine (PVC)
And Polypropylene Conduit Direct Buried in Soil
Main Conduit

AT&T Kentucky System Practice Addendum 622-340-201 SC
Main Conduit - C Plastic Conduit

AT&T Kentucky System Practice 622-500-011
Manholes -General

AT&T Kentucky System Practice 622-512-200
Manhole - Sealing Walls
At conduit entrances

Practices can be reviewed by contacting AT&T Kentucky contact person referenced at the end of this document.

- 2) Contractor is to advise AT&T Kentucky contact person of proposed start of construction a minimum of twenty-eight (28) calendar days before start date.
- 3) **Materials provided by AT&T Kentucky except for trench backfill materials and except for concrete encasement materials.**

The following materials will be provided by AT&T Kentucky:

Conduit - two (2) 4-inch diameter C Plastic Conduit.

Manholes – two (2) 4’x6’x8’ Pre-cast Concrete Manholes.

Contractor is to advise AT&T Kentucky contact person fourteen (14) calendar days in advance of required delivery of each shipment of conduit. A twenty-eight (28) calendar day lead-time should be considered for all other AT&T Kentucky provided materials. Access route to delivery locations for conduit must be provided by contractor.

- 4) A minimum of forty-eight (48) inches of cover will be required over the top of the conduit except where specified on the plan sheets.
- 5) Excavation, backfill and surface restoration are incidental to the bid items shown on the "**Telephone (AT&T Kentucky) Utility Relocation Summary**".
- 6) AT&T Kentucky does not state the types of materials to be removed for conduit installation. Any excavation required for such installation, including rock or any other materials, is incidental to the items listed on the "unit to bid on" summary.

7) AT&T Kentucky Contact Persons

Manager Outside Plant Planning and Engineering Design

Morgan Herndon
3719 Bardstown Road
Louisville, Kentucky 40218
Office No. 502-458-7312
Cell No. 502-526-8814

Construction Inspector

Al Gruse
Phone No. 502-425-0641

AT&T Kentucky Supplemental Specifications 20150831.docx

SPECIAL NOTE CONCERNING
CORPS OF ENGINEERS NATIONWIDE 14 PERMIT
OLDHAM COUNTY
RECONSTRUCTION/REALIGNMENT OF KY 393
Item No. 5-234.10

THIS SHALL SERVE AS A NOTICE TO THE CONTRACTOR THAT THE CORPS OF ENGINEERS NATIONWIDE 14 PERMIT IS PENDING APPROVAL ON THIS PROJECT

THE CONTRACTOR WILL NOT BE ABLE TO BEGIN WORK UNTIL THE KENTUCKY TRANSPORTATION CABINET HAS SECURED THE APPROPRIATE APPROVALS AND HAS PROVIDED COPIES OF THESE APPROVALS TO THE CONTRACTOR.



STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

August 31, 2015

Kentucky Transportation Cabinet
Attention: Adam Michels
200 Mero Street
Frankfort, Kentucky 40622

Re: Water Quality Certification #2015-063-7
Item No. 5-234 Reconstruction & Realignment
of KY 393 Project
USACE ID No.: LRL-2015-493
AI No.: 114286, Activity ID: APE20150001
Unnamed Tributaries and Wetland of North
Fork Currys Fork & Unnamed Tributaries to
Cedar Creek
Oldham County, Kentucky

Dear Mr. Michels:

Pursuant to Section 401 of the Clean Water Act (CWA), the Commonwealth of Kentucky certifies it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated by the above referenced project provided that the U.S. Army Corps of Engineers authorizes the activity under 33 CFR part 330, and the attached conditions are met.

All future correspondence on this project must reference **AI No. 114286**. **The attached document is your official Water Quality Certification; please read it carefully.** If you should have any questions concerning the conditions of this water quality certification, please contact Chloe Brantley of my staff by calling (502) 564-3410.

Sincerely,

A handwritten signature in black ink that reads "Andrea Keatley".

Andrea Keatley, Acting Supervisor
401 Water Quality Certification Section
Kentucky Division of Water

CB

Attachments

cc: Adam Michels, KYTC DEA (via email: Adam.Michels@ky.gov)
Layna Thrush, USACE: Louisville District (via email: Layna.E.Thrush@usace.army.mil)
Lee Andrews, USFWS: Frankfort (via email: teresa_hyatt@fws.gov)

Dale Booth, Salt River Basin Coordinator (via email: Dale.Booth@ky.gov)

KTC Water Quality Certification

KY 393 - Oldham Co
Facility Requirements
Permit Number: WQC#2015-063-7
Activity ID No.: APE20150001

ACTV000000002 (UTs to Cedar Creek & North Fork Currys Fork) KYTC Item No. 3-234- KY-393 Reconstruction and Realignment from I-71 to Dispatchers Hwy:

Submittal/Action Requirements:

Condition No.	Condition
S-1	A copy of the in-lieu fee receipt for 0.58 wetland Adjusted Mitigation Units and 1,230 stream Adjusted Mitigation Units paid to Kentucky Department of Fish and Wildlife Resources Wetland and Stream Mitigation Program must be submitted to the Water Quality Certification Section before the beginning of construction. [Clean Water Act]

Narrative Requirements:

Condition No.	Condition
T-1	The work approved by this certification shall be limited to the proposed Kentucky Transportation Cabinet Item No. 3-234 Reconstruction and Realignment of KY 393 from I-71 to Dispatchers Highway Project in Oldham County, Kentucky. Impacts to jurisdictional waters includes the following: <ul style="list-style-type: none"> - 0.243 acre of Palustrine Emergent (PEM) wetland - Two (2) ephemeral, unnamed tributaries to North Fork Currys Fork totalling 456 linear feet or 0.35 acre - Three (3) intermittent, unnamed tributaries to Cedar Creek totalling 288 linear feet or 0.0248 acre - Two (2) perennial, unnamed tributaries to Cedar Creek totalling 426 linear feet or 0.034 acre - One (1) ephemeral, unnamed tributaries to Cedar Creek totalling 70 linear feet or 0.004 acre. [Clean Water Act]
T-2	All work performed under this certification shall adhere to the design and specifications set forth in the Application for Water Quality Certification received July 11, 2015 by Kentucky Division of Water. [Clean Water Act]
T-3	Kentucky Transportation Cabinet must ensure that waterbodies and wetland boundaries and buffers are clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete. [Clean Water Act]
T-4	Kentucky Transportation Cabinet is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sedimentation control plan must be designed, implemented, and maintained in effective operating condition at all times during construction. [Clean Water Act]
T-5	The Division of Water reserves the right to modify or revoke this certification should it be determined that the activity is in noncompliance with any condition set forth in this certification [Clean Water Act]

KTC Water Quality Certification

KY 393 - Oldham Co
Facility Requirements
Permit Number: WQC#2015-063-7
Activity ID No.: APE20150001

ACTV000000002 (continued):

Narrative Requirements:

Condition No.	Condition
T-6	If construction does not commence within one year of the date of this letter, this certification will become void. A letter requesting a renewal should be submitted. [Clean Water Act]
T-7	Other permits from the Division of Water may be required for this activity. If this activity occurs within a floodplain, a Permit to Construct Across or Along a Stream may be required. Please contact the Floodplain Section Supervisor (502-564-3410) for more information. If the project will disturb one acre or more of land, or is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land, a Kentucky Pollution Discharge Elimination System (KPDES) stormwater permit shall be required from the Surface Water Permits Branch. This permit requires the development of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must include erosion prevention and sediment control measures. Contact: Surface Water Permits Branch (SWPBB) Support (502-564-3410 or SWPBBsupport@ky.gov)
T-8	Dredging work shall not be conducted during the fish spawning season, April 15th through June 15th. [Clean Water Act]
T-9	Mitigation for impacts shall begin prior to or concurrently with impacts. [Clean Water Act]
T-10	Check dams are not allowed within the stream channel. [Clean Water Act]
T-11	Remove all sediment and erosion control measures after re-vegetation has become well-established. [Clean Water Act]



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ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
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200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

ATTENTION APPLICANT

If your project involves one or more of the following activities, you may need more than one permit from the Kentucky Division of Water.

- *building in a floodplain *road culvert in a stream**
- *streambank stabilization *stream cleanout**
- *utility line crossing a stream**
- *construction sites greater than 1 acre**

- **Construction sites greater than 1 acre will require the filing of a Notice of Intent to be covered under the KPDES General Stormwater Permit. This permit requires the creation of an erosion control plan.**
Contact: Surface Water Permits Branch (SWPB) Support at (502) 564-3410 or SWPBsupport@ky.gov
- **Projects that involve filling in the floodplain will require a floodplain construction permit from the Floodplain Management Section.**
Contact: Ron Dutta
- **Projects that involve work IN a stream, such as bank stabilization, road culverts, utility line crossings, and stream alteration will require a floodplain permit and a Water Quality Certification from the Division of Water.**
Contact: Andrea Keatley

All three contacts listed above can be reached at (502) 564-3410. A complete listing of environmental programs administered by the Kentucky Department for Environmental Protection is available from Pete Goodmann by calling (502) 564-3410.

GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION

1. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
2. All dredged material shall be removed to an upland location and/or graded on adjacent areas (so long as such areas are not regulated wetlands), to obtain original streamside elevations, i.e. overbank flooding shall not be artificially obstructed.
3. In areas not riprapped or other wise stabilized, revegetation of stream banks and riparian zones shall occur concurrently with project progression. At a minimum, revegetation will approximate pre-disturbance conditions.
4. To the maximum extent practicable, all instream work under this certification shall be performed during low flow.
5. 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 instream work is unavoidable, then it shall be performed in such a manner and duration as to minimize resuspension of sediments and disturbance to substrates and bank or riparian vegetation.
6. Any fill or riprap including refuse 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.
7. 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 work will be done.
8. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.
9. 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 800/564-2380.

KyTC BMP Plan for Project PCN ## - #####



Kentucky Transportation Cabinet

Highway District 5 (1)

And

_____ **(2), Construction**

**Kentucky Pollutant Discharge Elimination System
Permit KYR10
Best Management Practices (BMP) plan**

Groundwater protection plan

For Highway Construction Activities

For

**KY 393 Section "A" (1)
From I-71 to Buckner Crossings Access Road**

Project: PCN ## - #####

KyTC BMP Plan for Project PCN ## -

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 Name = KY 393 Section “A” (From I-71 to Buckner Crossings Access Road) (1)
6. Project Coordinates = 38°22’56” N, 85°25’48” W (1)
7. Project County = Oldham County (1)
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KyTC BMP Plan for Project PCN ## - #####

A. Site description:

1. Nature of Construction Activity: KY 393 Section "A" from I-71 to Buckner Crossings Access Road (1)
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved: Embankment = 42,856 cu. yds., Excavation = 78,236 cu. yds. (1)
4. Total Project Area = 19.07 acres (1)
5. Disturbed Drainage Area = 20.40 acres (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: Soil samples revealed a range of soils from silty sands, poorly graded sand-silt mix to inorganic clayey silts, and elastic silts. (1) & (2)
8. Data describing existing discharge water quality (if any): No existing water quality data is available for the immediate project area. (1) & (2)
9. Receiving water name(s): North Fork Curry's Fork (1)
10. TMDLs and Pollutants of Concern in Receiving Waters: According to U.S. EPA's Watershed Assessment, Tracking and Environmental Results, 2012 Waterbody Report for North Fork Curry's Fork 0.0 to 6.0, North Fork Curry's Fork was reported as an impaired water body due to E. Coli. The TMDL for North Fork Curry's Fork was included in the September, 2014 report "Final Development of E. coli and Fecal Coliform for 18 Stream Segments within the Floyds Fork Watershed". (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

KyTC BMP Plan for Project PCN ## -

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. All DDA's will have adequate BMP's in place before being disturbed.

KyTC BMP Plan for Project PCN ## -

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 proposed 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. Probable 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.

KyTC BMP Plan for Project PCN ## -

- 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)
- Aggregate channel lining and stilling basins at pipe outlets to dissipate energy and collect sediment.
 - Turf reinforcement mat in certain channels to resist channel scour.

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.

KyTC BMP Plan for Project PCN ## -

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

KyTC BMP Plan for Project PCN ## -

- 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.

KyTC BMP Plan for Project PCN ## -

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 contact 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)

KyTC BMP Plan for Project PCN ## -

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.

KyTC BMP Plan for Project PCN ## -

- 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 from 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);

KyTC BMP Plan for Project PCN ## - #####

_____ 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.)

KyTC BMP Plan for Project PCN ## -

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 signature
 Typed or printed name²

(3) Signed _____, _____
 title signature
 Typed or printed name¹

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.

KyTC BMP Plan for Project PCN ## - #####

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 signature
 Typed or printed name¹

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.

Item No. 5-234.10

PCN ##-####
KY 393 Section "A" (From I-71 to Buckner Crossings Access Road)

KPDES NOI for coverage of Storm Water Discharge Associated with Construction Activities
Under the KPDES Storm Water General Permit KYR100000

Transaction ID:

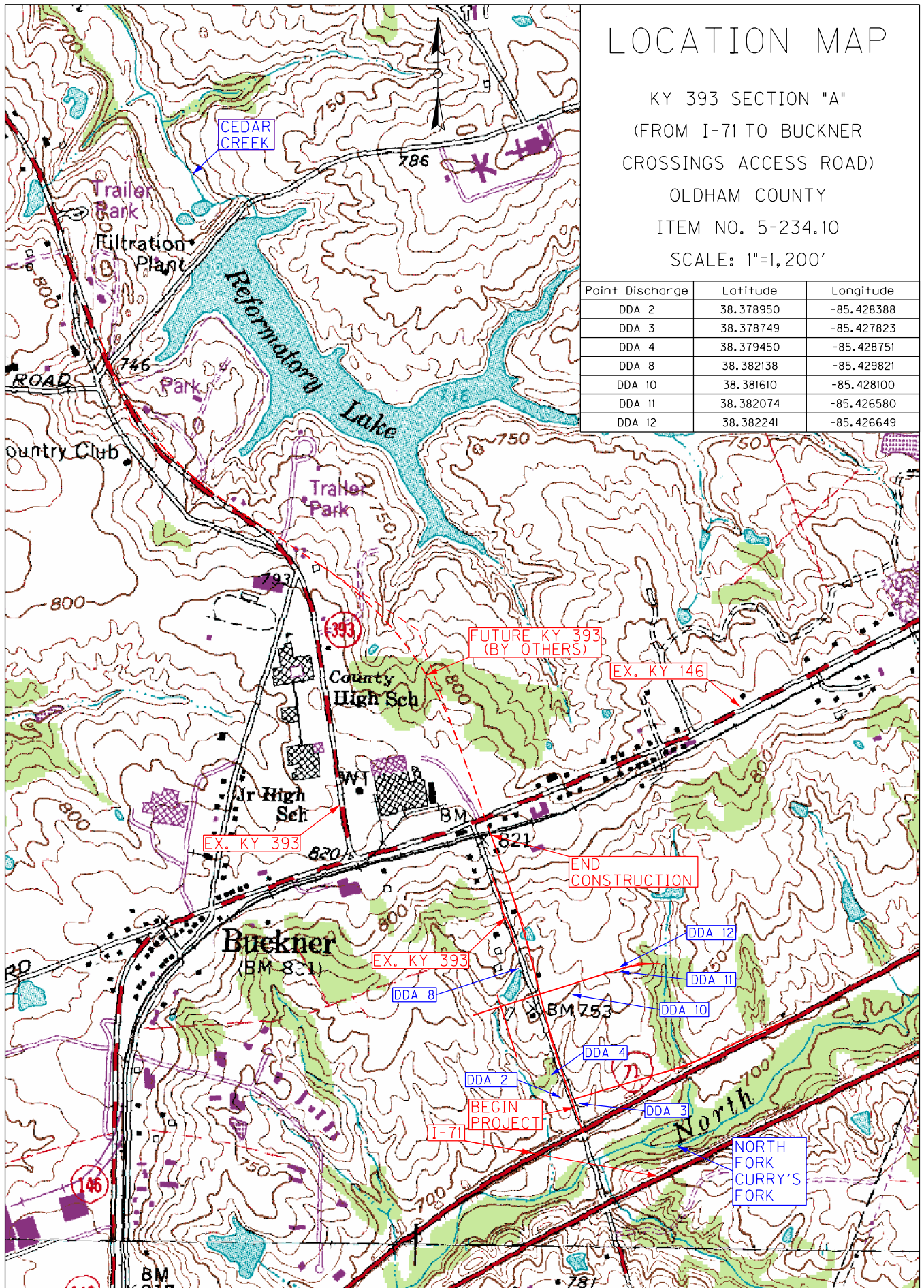
11aed080-615d-4b8d-b6c2-19e92de30f02

Last revised: KPM 9/28/2015

LOCATION MAP

KY 393 SECTION "A"
 (FROM I-71 TO BUCKNER
 CROSSINGS ACCESS ROAD)
 OLDHAM COUNTY
 ITEM NO. 5-234.10
 SCALE: 1"=1,200'

Point Discharge	Latitude	Longitude
DDA 2	38.378950	-85.428388
DDA 3	38.378749	-85.427823
DDA 4	38.379450	-85.428751
DDA 8	38.382138	-85.429821
DDA 10	38.381610	-85.428100
DDA 11	38.382074	-85.426580
DDA 12	38.382241	-85.426649



Source: U.S. Geological Survey, La Grange, KY-IND Quadrangle, 1993

KENTUCKY TRANSPORTATION CABINET
COMMUNICATING ALL PROMISES (CAP)
ACTIVE

24 SEP 2015

Item No.	5 - 234.1			Project Mgr.	CARL JENKINS	
			County	OLDHAM	Route	KY-393
CAP #	Date of Promise	Promise made to:	Location of Promise			
1	12-APR-13	I71 Trailer Storage, LLC	Parcel No 155			
CAP Description						
*CONSTRUCTION WORK COMPLETED ON THE ACQUIRED AND ADJACENT RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE APPLICABLE AIR POLLUTION, WATER POLLUTION, PROTECTION AND RESTORATION OF PROPERTY, AND WATER FOR DUST CONTROL REQUIREMENTS AS INDICATED IN THE CURRENT KYTC STANDARD SPECIFICATIONS.						
*KYTC SHALL MAINTAIN ACCESS TO I-71 TRAILER STORAGE, LLC, SUITABLE FOR TRACTOR TRAILERS.						
*I-71 TRAILER STORAGE, LLC SHALL BE PROVIDED A MINIMUM 3 MONTH NOTICE BEFORE ANY CONSTRUCTION (INCLUDING UTILITY CONSTRUCTION) ON THE PARCEL, OR ITS ENTRANCE, BEGINS. TENANTS PARKING WITHIN THE ACQUISITION AREA WILL BE ABLE TO CONTINUE PARKING IN THIS AREA UNTIL 2 MONTHS PRIOR TO THE BEGINNING OF THIS CONSTRUCTION .						
*KYTC SHALL STAKE THE ACQUIRED RIGHT-OF-WAY WITHIN 3 MONTHS OF THE ACQUISITION.						

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2012* and *Standard Drawings, Edition of 2012 with the 2012 Revision*.

**Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the July 31, 2015 Letting**

Subsection:	102.15 Process Agent.
Revision:	Replace the 1st paragraph with the following: Every corporation doing business with the Department shall submit evidence of compliance with KRS Sections 14A.4-010, 271B.11-010, 271B.11-070, 271B.11-080, 271B.5-010 and 271B.16-220, and file with the Department the name and address of the process agent upon whom process may be served.
Subsection:	105.13 Claims Resolution Process.
Revision:	Delete all references to TC 63-34 and TC 63-44 from the subsection as these forms are no longer available through the forms library and are forms generated within the AASHTO SiteManager software.
Subsection:	108.03 Preconstruction Conference.
Revision:	Replace 8) Staking with the following: 8) Staking (designated by a Professional Engineer or Land Surveyor licensed in the Commonwealth of Kentucky.
Subsection:	109.07.02 Fuel.
Revision:	Revise item Crushed Aggregate Used for Embankment Stabilization to the following: Crushed Aggregate Used for Stabilization of Unsuitable Materials Used for Embankment Stabilization
	Delete the following item from the table. Crushed Sandstone Base (Cement Treated)
Subsection:	110.02 Demobilization.
Revision:	Replace the first part of the first sentence of the second paragraph with the following: Perform all work and operations necessary to accomplish final clean-up as specified in the first paragraph of Subsection 105.12;
Subsection:	112.03.12 Project Traffic Coordinator (PTC).
Revision:	Replace the last paragraph of this subsection with the following: Ensure the designated PTC has sufficient skill and experience to properly perform the task assigned and has successfully completed the qualification courses.
Subsection:	112.04.18 Diversions (By-Pass Detours).
Revision:	Insert the following sentence after the 2nd sentence of this subsection. The Department will not measure temporary drainage structures for payment when the contract documents provide the required drainage opening that must be maintained with the diversion. The temporary drainage structures shall be incidental to the construction of the diversion. If the contract documents fail to provide the required drainage opening needed for the diversion, the cost of the temporary drainage structure will be handled as extra work in accordance with section 109.04.
Subsection:	201.03.01 Contractor Staking.
Revision:	Replace the first paragraph with the following: Perform all necessary surveying under the general supervision of a Professional Engineer or Land Surveyor licensed in the Commonwealth of Kentucky.

**Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the July 31, 2015 Letting**

Subsection:	201.04.01 Contractor Staking.
Revision:	Replace the last sentence of the paragraph with the following: Complete the general layout of the project under the supervision of a Professional Engineer or Land Surveyor licensed in the Commonwealth of Kentucky.
Subsection:	206.04.01 Embankment-in-Place.
Revision:	Replace the fourth paragraph with the following: The Department will not measure suitable excavation included in the original plans that is disposed of for payment and will consider it incidental to Embankment-in-Place.
Subsection:	208.02.01 Cement.
Revision:	Replace paragraph with the following: Select Type I or Type II cement conforming to Section 801. Use the same type cement throughout the work.
Subsection:	208.03.06 Curing and Protection.
Revision:	Replace the fourth paragraph with the following: Do not allow traffic or equipment on the finished surface until the stabilized subgrade has cured for a total of 7-days with an ambient air temperature above 40 degrees Fahrenheit. A curing day consists of a continuous 24-hour period in which the ambient air temperature does not fall below 40 degrees Fahrenheit. Curing days will not be calculated consecutively, but must total seven (7) , 24-hour days with the ambient air temperature remaining at or above 40 degrees Fahrenheit before traffic or equipment will be allowed to traverse the stabilized subgrade. The Department may allow a shortened curing period when the Contractor requests. The Contractor shall give the Department at least 3 day notice of the request for a shortened curing period. The Department will require a minimum of 3 curing days after final compaction. The Contractor shall furnish cores to the treated depth of the roadbed at 500 feet intervals for each lane when a shortened curing time is requested. The Department will test cores using an unconfined compression test. Roadbed cores must achieve a minimum strength requirement of 80 psi.
Subsection:	208.03.06 Curing and Protection.
Revision:	Replace paragraph eight with the following: At no expense to the Department, repair any damage to the subgrade caused by freezing.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	A) Seed Mixtures for Permanent Seeding.
Revision:	Revise Seed Mix Type I to the mixture shown below: 50% Kentucky 31 Tall Fescue (Festuca arundinacea) 35% Hard Fescue (Festuca (Festuca longifolia) 10% Ryegrass, Perennial (Lolium perenne) 5% White Dutch Clover (Trifolium repens)
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	A) Seed Mixtures for Permanent Seeding.
Number:	2)
Revision:	Replace the paragraph with the following: Permanent Seeding on Slopes Greater than 3:1 in Highway Districts 4, 5, 6, and 7. Apply seed mix Type II at a minimum application rate of 100 pounds per acre. If adjacent to a golf course replace the crown vetch with Kentucky 31 Tall Fescue.

**Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the July 31, 2015 Letting**

Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	A) Seed Mixtures for Permanent Seeding.
Number:	3)
Revision:	Replace the paragraph with the following: Permanent Seeding on Slopes Greater than 3:1 in Highway Districts 1, 2, 3, 8, 9, 10, 11, and 12. Apply seed mix Type III at a minimum application rate of 100 pounds per acre. If adjacent to crop land or golf course, replace the Sericea Lespedeza with Kentucky 31 Fescue.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	B) Procedures for Permanent Seeding.
Revision:	Delete the first sentence of the section.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	B) Procedures for Permanent Seeding.
Revision:	Replace the second and third sentence of the section with the following: Prepare a seedbed and apply an initial fertilizer that contains a minimum of 100 pounds of nitrogen, 100 pounds of phosphate, and 100 pounds of potash per acre. Apply agricultural limestone to the seedbed when the Engineer determines it is needed. When required, place agricultural limestone at a rate of 3 tons per acre.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	D) Top Dressing.
Revision:	Change the title of part to D) Fertilizer.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	D) Fertilizer.
Revision:	Replace the first paragraph with the following: Apply fertilizer at the beginning of the seeding operation and after vegetation is established. Use fertilizer delivered to the project in bags or bulk. Apply initial fertilizer to all areas prior to the seeding or sodding operation at the application rate specified in 212.03.03 B). Apply 20-10-10 fertilizer to the areas after vegetation has been established at a rate of 11.5 pounds per 1,000 square feet. Obtain approval from the Engineer prior to the 2nd fertilizer application. Reapply fertilizer to any area that has a streaked appearance. The reapplication shall be at no additional cost to the Department. Re-establish any vegetation severely damaged or destroyed because of an excessive application of fertilizer at no cost to the Department.
Subsection:	212.03.03 Permanent Seeding and Protection.
Part:	D) Fertilizer.
Revision:	Delete the second paragraph.
Subsection:	212.04.04 Agricultural Limestone.
Revision:	Replace the entire section with the following: The Department will measure the quantity of agricultural limestone in tons.
Subsection:	212.04.05 Fertilizer.
Revision:	Replace the entire section with the following: The Department will measure fertilizer used in the seeding or sodding operations for payment. The Department will measure the quantity by tons.

**Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the July 31, 2015 Letting**

Subsection:	212.05 PAYMENT.												
Revision:	Delete the following item code:												
	<table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Item</u></th> <th><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>05966</td> <td>Topdressing Fertilizer</td> <td>Ton</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	05966	Topdressing Fertilizer	Ton						
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>											
05966	Topdressing Fertilizer	Ton											
Subsection:	212.05 PAYMENT.												
Revision:	Add the following pay items:												
	<table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Item</u></th> <th><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>05963</td> <td>Initial Fertilizer</td> <td>Ton</td> </tr> <tr> <td>05964</td> <td>20-10-10 Fertilizer</td> <td>Ton</td> </tr> <tr> <td>05992</td> <td>Agricultural Limestone</td> <td>Ton</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	05963	Initial Fertilizer	Ton	05964	20-10-10 Fertilizer	Ton	05992	Agricultural Limestone	Ton
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>											
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 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 subplot(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:	402.03.02 Contractor Quality Control and Department Acceptance.
Part:	D) Testing Responsibilities.
Number:	5) Gradation.
Revision:	Delete the second paragraph.
Subsection:	402.03.02 Contractor Quality Control and Department Acceptance.
Part:	H) Unsatisfactory Work.
Number:	1) Based on Lab Data.
Revision:	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:	402.03.03 Verification.
Revision:	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 subplot. The Department may perform the mixture verification test on the Contractor's equipment or on the Department's equipment.
Subsection:	402.03.03 Verification.
Part:	A) Evaluation of Sublot(s) Verified by Department.
Revision:	Replace the third sentence of the second paragraph with the following: When the paired <i>t</i> -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:	402.03.03 Verification.
Part:	B) Evaluation of Sublots Not Verified by Department.
Revision:	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:	402.03.03 Verification.
Part:	B) Evaluation of Sublots Not Verified by Department.
Revision:	Replace the third sentence of the second paragraph with the following: When the <i>F</i> -test or <i>t</i> -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:	402.03.03 Verification.
Part:	C) Test Data Patterns.
Revision:	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:	402.03 CONSTRUCTION.
Revision:	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:	402.03.04 Dispute Resolution.
Revision:	Change the subsection number to 402.03.05.
Subsection:	402.05 PAYMENT.
Part:	Lot Pay Adjustment Schedule Compaction Option A Base and Binder Mixtures
Table:	AC
Revision:	Replace the Deviation from JMF(%) that corresponds to a Pay Value of 0.95 to ± 0.6 .
Subsection:	403.02.10 Material Transfer Vehicle (MTV).
Revision:	Replace the first sentence with the following: In addition to the equipment specified above, provide a MTV with the following minimum characteristics:
Subsection:	412.02.09 Material Transfer Vehicle (MTV).
Revision:	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:	412.03.07 Placement and Compaction.
Revision:	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:	412.04 MEASUREMENT.
Revision:	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:	501.03.05 Weather Limitations and Protection.
Revision:	Replace the reference to Subsection 501.03.19 in Paragraph 5, with Subsection 501.03.20.
Subsection:	501.03.19 Surface Tolerances and Testing Surface.
Part:	B) Ride Quality.
Revision:	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:	603.03.06 Cofferdams.
Revision:	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:	605.03.04 Tack Welding.
Revision:	Insert the subsection and the following: 605.03.04 Tack Welding. The Department does not allow tack welding.
Subsection:	606.03.17 Special Requirements for Latex Concrete Overlays.
Part:	A) Existing Bridges and New Structures.
Number:	1) Prewetting and Grout-Bond Coat.
Revision:	Add the following sentence to the last paragraph: Do not apply a grout-bond coat on bridge decks prepared by hydrodemolition.
Subsection:	609.03 Construction.
Revision:	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.

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Subsection:	611.03.02 Precast Unit Construction.
Revision:	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:
Subsection:	613.03.01 Design.
Number:	2)
Revision:	Replace "AASHTO Standard Specifications for Highway Bridges" with "AASHTO LRFD Bridge Design Specifications"
Subsection:	615.06.02
Revision:	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:	615.06.03 Placement of Reinforcement in Precast 3-Sided Units.
Revision:	Replace the reference of 6.6 in the section to 615.06.06.
Subsection:	615.06.04 Placement of Reinforcement for Precast Endwalls.
Revision:	Replace the reference of 6.7 in the section to 615.06.07.
Subsection:	615.06.06 Laps, Welds, and Spacing for Precast 3-Sided Units.
Revision:	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:	615.06.07 Laps, Welds, and Spacing for Precast Endwalls.
Revision:	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:	615.08.01 Type of Test Specimen.
Revision:	Replace the subsection with the following: Start-up slump, air content, unit weight, and temperature tests will be performed each day on the first batch of concrete. Acceptable start-up results are required for production of the first unit. After the first unit has been established, random acceptance testing is performed daily for each 50 yd ³ (or fraction thereof). In addition to the slump, air content, unit weight, and temperature tests, a minimum of one set of cylinders shall be required each time plastic property testing is performed.
Subsection:	615.08.02 Compression Testing.
Revision:	Delete the second sentence.
Subsection:	615.08.04 Acceptability of Core Tests.
Revision:	Delete the entire subsection.
Subsection:	615.12 Inspection.
Revision:	Add the following sentences to the end of the subsection: Units will arrive at jobsite with the "Kentucky Oval" stamped on the unit which is an indication of acceptable inspection at the production facility. Units shall be inspected upon arrival for any evidence of damage resulting from transport to the jobsite.
Subsection:	701.04.16 Deduction for Pipe Deflection.
Revision:	Insert the following at the end of the paragraph: The section length is determined by the length of the pipe between joints where the failure occurred.
Subsection:	716.02.02 Paint.
Revision:	Replace sentence with the following: Conform to Section 821.
Subsection:	716.03 CONSTRUCTION.
Revision:	Replace bullet 5) with the following: 5) AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims,
Subsection:	716.03.02 Lighting Standard Installation.
Revision:	Replace the second sentence with the following: Regardless of the station and offset noted, locate all poles/bases behind the guardrail a minimum of four feet from the front face of the guardrail to the front face of the pole base.
Subsection:	716.03.02 Lighting Standard Installation.
Part:	A) Conventional Installation.
Revision:	Replace the third sentence with the following: Orient the transformer base so the door is positioned on the side away from on-coming traffic.
Subsection:	716.03.02 Lighting Standard Installation.
Part:	A) Conventional Installation.
Number:	1) Breakaway Installation and Requirements.
Revision:	Replace the first sentence with the following: For breakaway supports, conform to Section 12 of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims.
Subsection:	716.03.02 Lighting Standard Installation.
Part:	B) High Mast Installation
Revision:	Replace the first sentence with the following: Install each high mast pole as noted on plans.

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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:																																																
	<table border="1"> <thead> <tr> <th colspan="8">Drilled Shaft Depth Data</th> </tr> <tr> <th colspan="2">Level Ground</th> <th colspan="2">3:1 Ground Slope</th> <th colspan="2">2:1 Ground Slope</th> <th colspan="2">1.5:1 Ground Slope ⁽²⁾</th> </tr> <tr> <th>Soil</th> <th>Rock</th> <th>Soil</th> <th>Rock</th> <th>Soil</th> <th>Rock</th> <th>Soil</th> <th>Rock</th> </tr> </thead> <tbody> <tr> <td>17 ft</td> <td>7 ft</td> <td>19 ft</td> <td>7 ft</td> <td>20 ft</td> <td>7 ft</td> <td>(1)</td> <td>7 ft</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="4">Steel Requirements</th> </tr> <tr> <th colspan="2">Vertical Bars</th> <th colspan="2">Ties or Spiral</th> </tr> <tr> <th>Size</th> <th>Total</th> <th>Size</th> <th>Spacing or Pitch</th> </tr> </thead> <tbody> <tr> <td>#10</td> <td>16</td> <td>#4</td> <td>12 inch</td> </tr> </tbody> </table> <p>(1): Shaft length is 22' for cohesive soil only. For cohesionless soil, contact geotechnical branch for design.</p> <p>(2): Do not construct high mast drilled shafts on ground slopes steeper than 1.5:1 without the approval of the Division of Traffic.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>	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
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Subsection: Part: Revision:	716.03.03 Trenching. A) Trenching of Conduit for Highmast Ducted Cables. 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:	716.03.03 Trenching.
Part:	B) Trenching of Conduit for Non-Highmast Cables.
Revision:	Add the following after the second sentence: If depths greater than 24 inches are necessary for either situation listed previously, obtain the Engineer's approval and maintain the required conduit depths coming into the junction boxes. No payment for additional junction boxes for greater depths will be allowed.
Subsection:	716.03.10 Junction Boxes.
Revision:	Replace subsection title with the following: Electrical Junction Box.
Subsection:	716.04.07 Pole with Secondary Control Equipment.
Revision:	Replace the paragraph with the following: The Department will measure the quantity as each individual unit furnished and installed. The Department will not measure mounting the cabinet to the pole, backfilling, restoration, any necessary hardware to anchor pole, or electrical inspection fees, and will consider them incidental to this item of work. The Department will also not measure furnishing and installing electrical service conductors, specified conduits, meter base, transformer, service panel, fused cutout, fuses, lighting arrestors, photoelectrical control, circuit breaker, contactor, manual switch, ground rods, and ground wires and will consider them incidental to this item of work.
Subsection:	716.04.08 Lighting Control Equipment.
Revision:	Replace the paragraph with the following: The Department will measure the quantity as each individual unit furnished and installed. The Department will not measure constructing the concrete base, excavation, backfilling, restoration, any necessary anchors, or electrical inspection fees, and will consider them incidental to this item of work. The Department will also not measure furnishing and installing electrical service conductors, specified conduits, meter base, transformer, service panel, fused cutout, fuses, lighting arrestors, photoelectrical control, circuit breakers, contactor, manual switch, ground rods, and ground wires and will consider them incidental to this item of work.
Subsection:	716.04.09 Luminaire.
Revision:	Replace the first sentence with the following: The Department will measure the quantity as each individual unit furnished and installed.
Subsection:	716.04.10 Fused Connector Kits.
Revision:	Replace the first sentence with the following: The Department will measure the quantity as each individual unit furnished and installed.
Subsection:	716.04.13 Junction Box.
Revision:	Replace the subsection title with the following: Electrical Junction Box Type Various.
Subsection:	716.04.13 Junction Box.
Part:	A) Junction Electrical.
Revision:	Rename A) Junction Electrical to the following: A) Electrical Junction Box.
Subsection:	716.04.14 Trenching and Backfilling.
Revision:	Replace the second sentence with the following: The Department will not measure excavation, backfilling, underground utility warning tape (if required), the restoration of disturbed areas to original condition, and will consider them incidental to this item of work.

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Subsection:	716.04.18 Remove Lighting.															
Revision:	Replace the paragraph with the following: The Department will measure the quantity as a lump sum for the removal of lighting equipment. The Department will not measure the disposal of all equipment and materials off the project by the contractor. The Department also will not measure the transportation of the materials and will consider them incidental to this item of work.															
Subsection:	716.04.20 Bore and Jack Conduit.															
Revision:	Replace the paragraph with the following: The Department will measure the quantity in linear feet. This item shall include all work necessary for boring and installing conduit under an existing roadway. Construction methods shall be in accordance with Sections 706.03.02, paragraphs 1, 2, and 4.															
Subsection:	716.05 PAYMENT.															
Revision:	Replace items 04810-04811, 20391NS835 and, 20392NS835 under <u>Code</u> , <u>Pay Item</u> , and <u>Pay Unit</u> with the following:															
	<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Item</u></th> <th><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>04810</td> <td>Electrical Junction Box</td> <td>Each</td> </tr> <tr> <td>04811</td> <td>Electrical Junction Box Type B</td> <td>Each</td> </tr> <tr> <td>20391NS835</td> <td>Electrical Junction Box Type A</td> <td>Each</td> </tr> <tr> <td>20392NS835</td> <td>Electrical Junction Box Type C</td> <td>Each</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	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
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Subsection:	723.02.02 Paint.															
Revision:	Replace sentence with the following: Conform to Section 821.															
Subsection:	723.03 CONSTRUCTION.															
Revision:	Replace bullet 5) with the following: 5) AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims,															
Subsection:	723.03.02 Poles and Bases Installation.															
Revision:	Replace the first sentence with the following: Regardless of the station and offset noted, locate all poles/bases behind the guardrail a minimum of four feet from the front face of the guardrail to the front face of the pole base.															
Subsection:	723.03.02 Poles and Bases Installation.															
Part:	A) Steel Strain and Mastarm Poles Installation															
Revision:	Replace the second paragraph with the following: For concrete base installation, see Section 716.03.02, B), 2), Paragraphs 2-7. Drilled shaft depth shall be based on the soil conditions encountered during drilling and slope condition at the site. Refer to the design chart below:															
Subsection:	723.03.02 Poles and Bases Installation.															
Part:	B) Pedestal or Pedestal Post Installation.															
Revision:	Replace the fourth sentence of the paragraph with the following: For breakaway supports, conform to Section 12 of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims.															

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Subsection:	723.03.03 Trenching.
Part:	A) Under Roadway.
Revision:	Add the following after the second sentence: If depths greater than 24 inches are necessary, obtain the Engineer's approval and maintain either required conduit depths coming into the junction boxes. No payment for additional junction boxes for greater depths will be allowed.
Subsection:	723.03.11 Wiring Installation.
Revision:	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:	723.03.12 Loop Installation.
Revision:	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:	723.04.02 Junction Box.
Revision:	Replace subsection title with the following: Electrical Junction Box Type Various.
Subsection:	723.04.03 Trenching and Backfilling.
Revision:	Replace the second sentence with the following: The Department will not measure excavation, backfilling, underground utility warning tape (if required), the restoration of disturbed areas to original condition, and will consider them incidental to this item of work.
Subsection:	723.04.10 Signal Pedestal.
Revision:	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:	723.04.15 Loop Saw Slot and Fill.
Revision:	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:	723.04.16 Pedestrian Detector.
Revision:	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:	723.04.18 Signal Controller- Type 170.
Revision:	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:	723.04.20 Install Signal Controller - Type 170.
Revision:	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:	723.04.22 Remove Signal Equipment.
Revision:	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:	723.04.28 Install Pedestrian Detector Audible.
Revision:	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:	723.04.29 Audible Pedestrian Detector.
Revision:	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:	723.04.30 Bore and Jack Conduit.
Revision:	Replace the paragraph with the following: The Department will measure the quantity in linear feet. This item shall include all work necessary for boring and installing conduit under an existing roadway. Construction methods shall be in accordance with Sections 706.03.02, paragraphs 1, 2, and 4.
Subsection:	723.04.31 Install Pedestrian Detector.
Revision:	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:	723.04.32 Install Mast Arm Pole.
Revision:	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:	723.04.33 Pedestal Post.
Revision:	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:	723.04.36 Traffic Signal Pole Base.															
Revision:	Replace the second sentence with the following: The Department will not measure excavation, reinforcing steel, anchor bolts, specified conduits, ground rods, ground wires, backfilling, or restoration and will consider them incidental to this item of work.															
Subsection:	723.04.37 Install Signal Pedestal.															
Revision:	Replace the second sentence with the following: The Department will not measure excavation, concrete, reinforcing steel, anchor bolts, specified conduits, fittings, ground rod, ground wire, backfilling, restoration, or any other necessary hardware and will consider them incidental to this item of work.															
Subsection:	723.04.38 Install Pedestal Post.															
Revision:	Replace the second sentence with the following: The Department will not measure excavation, concrete, reinforcing steel, anchor bolts, specified conduits, fittings, ground rod, ground wire, backfilling, restoration, or any other necessary hardware and will consider them incidental to this item of work.															
Subsection:	723.05 PAYMENT.															
Revision:	Replace items 04810-04811, 20391NS835 and, 20392NS835 under <u>Code</u> , <u>Pay Item</u> , and <u>Pay Unit</u> with the following:															
	<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Item</u></th> <th><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>04810</td> <td>Electrical Junction Box</td> <td>Each</td> </tr> <tr> <td>04811</td> <td>Electrical Junction Box Type B</td> <td>Each</td> </tr> <tr> <td>20391NS835</td> <td>Electrical Junction Box Type A</td> <td>Each</td> </tr> <tr> <td>20392NS835</td> <td>Electrical Junction Box Type C</td> <td>Each</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	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
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>														
04810	Electrical Junction Box	Each														
04811	Electrical Junction Box Type B	Each														
20391NS835	Electrical Junction Box Type A	Each														
20392NS835	Electrical Junction Box Type C	Each														
Subsection:	804.01.02 Crushed Sand.															
Revision:	Delete last sentence of the section.															
Subsection:	804.01.06 Slag.															
Revision:	Add subsection and following sentence. Provide blast furnace slag sand where permitted. The Department will allow steel slag sand only in asphalt surface applications.															
Subsection:	804.04 Asphalt Mixtures.															
Revision:	Replace the subsection with the following: Provide natural, crushed, conglomerate, or blast furnace slag sand, with the addition of filler as necessary, to meet gradation requirements. The Department will allow any combination of natural, crushed, conglomerate or blast furnace slag sand when the combination is achieved using cold feeds at the plant. The Engineer may allow other fine aggregates.															
Subsection:	806.03.01 General Requirements.															
Revision:	Replace the second sentence of the paragraph with the following: Additionally, the material must have a minimum solubility of 99.0 percent when tested according to AASHTO T 44 and PG 76-22 must exhibit a minimum recovery of 60 percent, with a J _{NR} (nonrecoverable creep compliance) between 0.1 and 0.5, when tested according to AASHTO TP 70.															

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Subsection:	806.03.01 General Requirements.						
Table:	PG Binder Requirements and Price Adjustment Schedule						
Revision:	Replace the Elastic Recovery, % ⁽³⁾ (AASHTO T301) and all corresponding values in the table with the following:						
	<u>Test</u>	<u>Specification</u>	<u>100% Pay</u>	<u>90% Pay</u>	<u>80% Pay</u>	<u>70% Pay</u>	<u>50% Pay⁽¹⁾</u>
	MSCR recovery, % ⁽³⁾ (AASHTO TP 70)	60 Min.	≥58	56	55	54	<53
Subsection:	806.03.01 General Requirements.						
Table:	PG Binder Requirements and Price Adjustment Schedule						
Superscript:	(3)						
Revision:	Replace ⁽³⁾ with the following: Perform testing at 64°C.						
Subsection:	813.04 Gray Iron Castings.						
Revision:	Replace the reference to "AASHTO M105" with "ASTM A48".						
Subsection:	813.09.02 High Strength Steel Bolts, Nuts, and Washers.						
Number:	A) Bolts.						
Revision:	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:	814.04.02 Timber Guardrail Posts.						
Revision:	Third paragraph, replace the reference to "AWPA C14" with "AWPA U1, Section B, Paragraph 4.1".						
Subsection:	814.04.02 Timber Guardrail Posts.						
Revision:	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:	814.04.02 Timber Guardrail Posts.						
Revision:	Fourth paragraph, replace the reference to "AWPA C2" with "AWPA U1, Section B, Paragraph 4.1".						
Subsection:	814.04.02 Timber Guardrail Posts.						
Revision:	Delete the second sentence of the fourth paragraph.						
Subsection:	814.05.02 Composite Plastic.						
Revision:	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:	816.07.02 Wood Posts and Braces.						
Revision:	First paragraph, replace the reference to "AWPA C5" with "AWPA U1, Section B, Paragraph 4.1".						
Subsection:	816.07.02 Wood Posts and Braces.						
Revision:	Delete the second sentence of the first paragraph.						
Subsection:	818.07 Preservative Treatment.						
Revision:	First paragraph, replace all references to "AWPA C14" with "AWPA U1, Section A".						

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<p>Subsection: Revision:</p>	<p>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).</p>
<p>Subsection Revision:</p>	<p>834.14.03 High Mast Poles. Remove the second and fourth sentence from the first paragraph.</p>
<p>Subsection Revision:</p>	<p>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.</p>
<p>Subsection: Revision:</p>	<p>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-gauge 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).</p>
<p>Subsection: Revision:</p>	<p>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.</p>

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Subsection:	834.17.01 Conventional.
Revision:	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:	834.21.01 Waterproof Enclosures.
Revision:	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:	835.07 Traffic Poles.
Revision:	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:	835.07 Traffic Poles.
Revision:	*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:	835.07 Traffic Poles.
Revision:	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:	835.07 Traffic Poles.
Revision:	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:	835.07 Traffic Poles.									
Revision:	*Replace the first sentence of the last paragraph with the following: Provide calculations and drawings that are stamped by a Professional Engineer licensed in the Commonwealth of Kentucky. *Replace the third sentence of the last paragraph with the following: All tables referenced in 835.07 are found in the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 2013-6th Edition with current interims.									
Subsection:	835.07.01 Steel Strain Poles.									
Revision:	Replace the second sentence of the second paragraph with the following: The detailed analysis shall be certified by a Professional Engineer licensed in the Commonwealth of Kentucky.									
Subsection:	835.07.01 Steel Strain Poles.									
Revision:	Replace number 7. after the second paragraph with the following: 7. Fatigue calculations should be shown for all fatigue related connections. Provide the corresponding detail, stress category and example from table 11.9.3.1-1.									
Subsection:	835.07.02 Mast Arm Poles.									
Revision:	Replace the second sentence of the fourth paragraph with the following: The detailed analysis shall be certified by a Professional Engineer licensed in the Commonwealth of Kentucky.									
Subsection:	835.07.02 Mast Arm Poles.									
Revision:	Replace number 7) after the fourth paragraph with the following: 7) Fatigue calculations should be shown for all fatigue related connections. Provide the corresponding detail, stress category and example from table 11.9.3.1-1.									
Subsection:	835.07.03 Anchor Bolts.									
Revision:	Add the following to the end of the paragraph: There shall be two steel templates (one can be used for the headed part of the anchor bolt when designed in this manner) provided per pole. Templates shall be contained within a 26.5 inch diameter. All templates shall be fully galvanized (ASTM A 153).									
Subsection:	835.16.05 Optical Units.									
Revision:	Replace the 3rd paragraph with the following: The list of certified products can be found on the following website: http://www.intertek.com .									
Subsection:	835.19.01 Pedestrian Detector Body.									
Revision:	Replace the first sentence with the following: Provide a four holed pole mounted aluminum rectangular housing that is compatible with the pedestrian detector.									
Subsection:	843.01.01 Geotextile Fabric.									
Table:	TYPE I FABRIC GEOTEXTILES FOR SLOPE PROTECTION AND CHANNEL LINING									
Revision:	Add the following to the chart:									
	<table border="1"> <thead> <tr> <th><u>Property</u></th> <th><u>Minimum Value⁽¹⁾</u></th> <th><u>Test Method</u></th> </tr> </thead> <tbody> <tr> <td>CBR Puncture (lbs)</td> <td>494</td> <td>ASTM D6241</td> </tr> <tr> <td>Permittivity (1/s)</td> <td>0.7</td> <td>ASTM D4491</td> </tr> </tbody> </table>	<u>Property</u>	<u>Minimum Value⁽¹⁾</u>	<u>Test Method</u>	CBR Puncture (lbs)	494	ASTM D6241	Permittivity (1/s)	0.7	ASTM D4491
<u>Property</u>	<u>Minimum Value⁽¹⁾</u>	<u>Test Method</u>								
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:		
	<u>Property</u>	<u>Minimum Value⁽¹⁾</u>	<u>Test Method</u>
	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:		
	<u>Property</u>	<u>Minimum Value⁽¹⁾</u>	<u>Test Method</u>
	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:		
	<u>Property</u>	<u>Minimum Value⁽¹⁾</u>	<u>Test Method</u>
	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:		
	<u>Property</u>	<u>Minimum Value⁽¹⁾</u>	<u>Test Method</u>
	CBR Puncture (lbs)	618	ASTM D6241
	Apparent Opening Size	U.S. #40 ⁽³⁾	ASTM D4751
	⁽³⁾ Maximum average roll value.		

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/=>=>=>/	/MIN/SPEED/**MPH/
/KEEP/LEFT/<=<=</	/ICY/BRIDGE/AHEAD/ /ONE
/LOOSE/GRAVEL/AHEAD/	LANE/BRIDGE/AHEAD/
/RD WORK/NEXT/**MILES/	/ROUGH/ROAD/AHEAD/
/TWO WAY/TRAFFIC/AHEAD/	/MERGING/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/	/NEXT/**/MILES/
/REDUCE/SPEED/**MPH/	/HEAVY/TRAFFIC/AHEAD/
/BRIDGE/WORK/**0 FT/	/SPEED/LIMIT/**MPH/
/MAX/SPEED/**MPH/	/BUMP/AHEAD/
/SURVEY/PARTY/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:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

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.

11D

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.

11D

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

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.

²Minimum Average Roll Values for tensile strength of sample material machine direction.

³Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.

⁴Maximum 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:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
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

April 18, 2009

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

1.0 DESCRIPTION. Install barcode label on sheeting signs. Section references herein are to the Department’s 2012 Standard Specifications for Road and Bridge Construction.

2.0 MATERIALS. The Department will provide the Contractor with a 2 inch x 1 inch foil barcode label for each permanent sheeting sign. A unique number will be assigned to each barcode label.

The Contractor shall contact the Operations and Pavement Management Branch in the Division of Maintenance at (502) 564-4556 to obtain the barcode labels.

3.0 CONSTRUCTION. Apply foil barcode label in the lower right quadrant of the sign back. Signs where the bottom edge is not parallel to the ground, the lowest corner of the sign shall serve as the location to place the barcode label. The barcode label shall be placed no less than one-inch and no more than three inches from any edge of the sign. The barcode must be placed so that the sign post does not cover the barcode label.

Barcodes shall be applied in an indoor setting with a minimum air temperature of 50°F or higher. Prior to application of the barcode label, the back of the sign must be clean and free of dust, oil, etc. If the sign is not clean, an alcohol swab shall be used to clean the area. The area must be allowed to dry prior to placement of the barcode label.

Data for each sign shall include the barcode number, MUTCD reference number, sheeting manufacturer, sheeting type, manufacture date, color of primary reflective surface, installation date, latitude and longitude using the North American Datum of 1983 (NAD83) or the State Plane Coordinates using an x and y ordinate of the installed location.

Data should be provided electronically on the TC 71-229 Sign Details Information and TC 71-230 Sign Assembly Information forms. The Contractor may choose to present the data in a different format provided that the information submitted to the Department is equivalent to the information required on the Department TC forms. The forms must be submitted in electronic format regardless of which type of form is used. The Department will not accept PDF or handwritten forms. These completed forms must be submitted to the Department prior to final inspection of the signs. The Department will not issue formal acceptance for the project until the TC 71-229 and TC-230 electronic forms are completed for all signs and sign assemblies on the project.

4.0 MEASUREMENT. The Department will measure all work required for the installation of the barcode label and all work associated with completion and submission of the sign inventory data (TC 71-229 and TC 71-230).

The installation of the permanent sign will be measured in accordance to Section 715.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

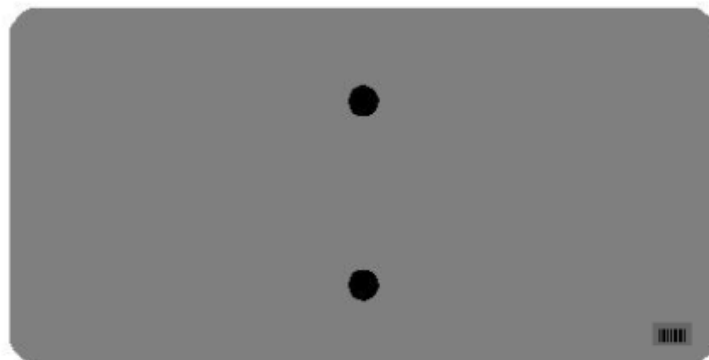
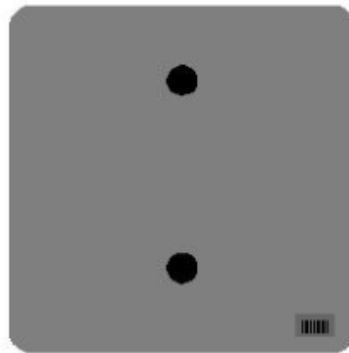
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

The Department will not make payment for this item until all barcodes are installed and sign inventory is complete on every permanent sign installed on the project. The Department will make payment for installation of the permanent sign in accordance to Section 715. The Department will consider payment as full compensation for all work required under this special note.

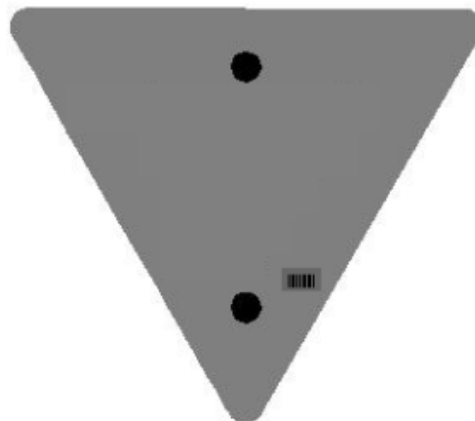
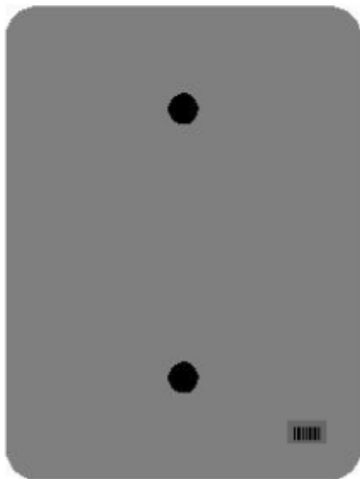
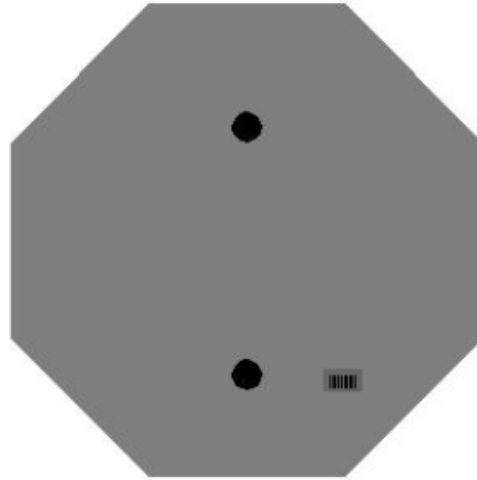
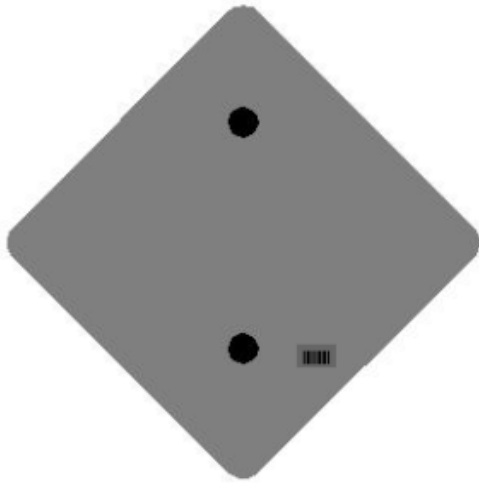
One Sign Post



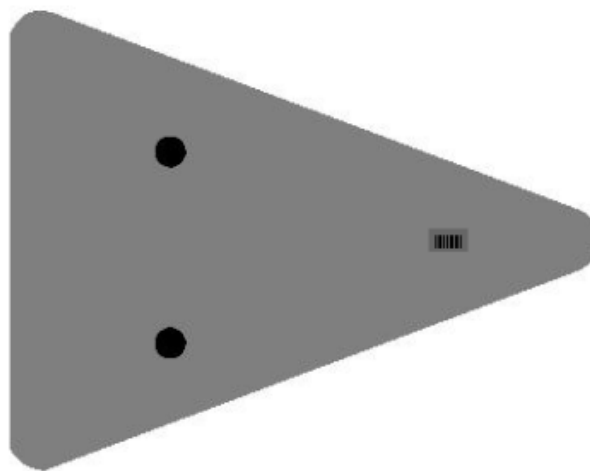
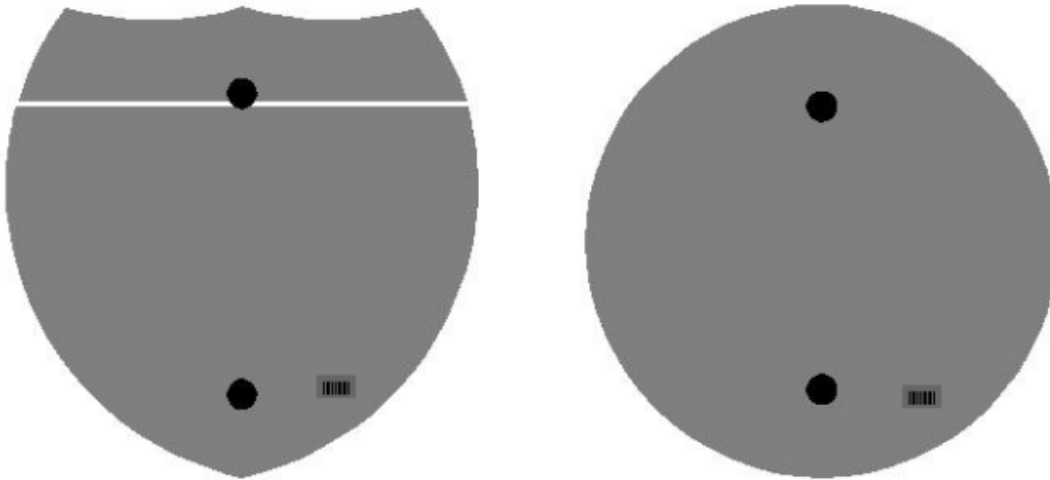
↑
2" Wide Post



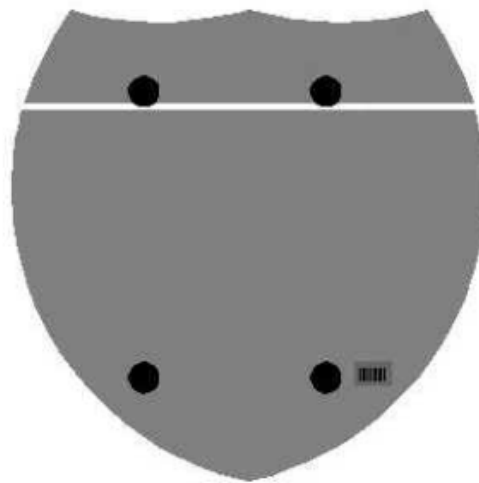
One Sign Post



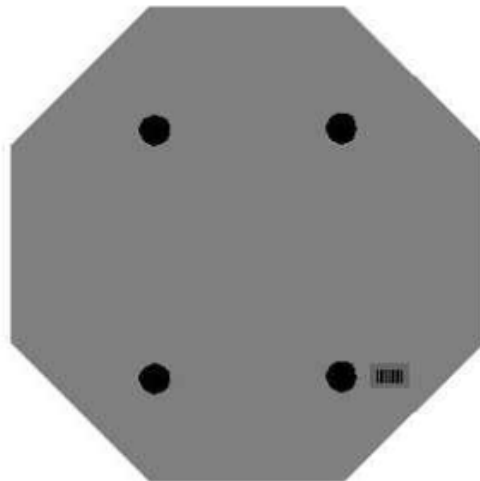
One Sign Post



Double Sign Post



Interstate
Shield

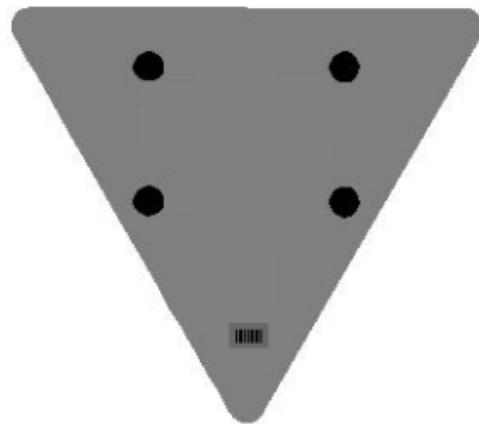


48" Stop

2 Post Signs



↑
2" Wide Post



SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE

1. DESCRIPTION. This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joint between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Viscosity, 400 ° F (Pa·s)	4.0 – 10.0	ASTM D 4402
Cone Penetration, 77 ° F	60 – 100	ASTM D 5329
Flow, 140 ° F (mm)	5.0 max.	ASTM D 5329
Resilience, 77 ° F (%)	30 min.	ASTM D 5329
Ductility, 77 ° F (cm)	30.0 min.	ASTM D 113
Ductility, 39 ° F (cm)	30.0 min.	ASTM D 113
Tensile Adhesion, 77 ° F (%)	500 min.	ASTM D 5329, Type II
Softening Point, ° F	171 min.	AASHTO T 53
Asphalt Compatibility	Pass	ASTM D 5329

Ensure the temperature of the pavement joint adhesive is between 380 and 410 °F when the material is extruded in a 0.125-inch-thick band over the entire face of the longitudinal joint.

2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.

2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.

2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air.

Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.

3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of 40 ° F during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude two 5 lb. samples of the heated material and forward the sample to the Division of Materials for testing. Reynolds oven bags, turkey size, placed inside small cardboard boxes or cement cylinder molds have been found suitable. Ensure the product temperature is 400°F or below at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.
5. PAYMENT. The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

Pavement Joint Adhesive Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Joint Adhesive Referenced in Subsection 2.1.1						
Viscosity, 400 ° F (Pa•s) ASTM D 3236	4.0-10.0	3.5-10.5	3.0-3.4 10.6-11.0	2.5-2.9 11.1-11.5	2.0-2.4 11.6-12.0	≤1.9 ≥ 12.1
Cone Penetration, 77 ° F ASTM D 5329	60-100	57-103	54-56 104-106	51-53 107-109	48-50 110-112	≤ 47 ≥ 113
Flow, 140 ° F (mm) ASTM D 5329	≤ 5.0	≤ 5.5	5.6-6.0	6.1-6.5	6.6-7.0	≥ 7.1
Resilience, 77 ° F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 ° F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, ° F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9
Ductility, 39 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9

Code
20071EC

Pay Item
Joint Adhesive

Pay Unit
Linear Foot

August 19, 2013

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

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.

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

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.

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).

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 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.

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.

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.

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.

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).

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.

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.

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 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 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 administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

REVISED: 12-3-92

Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor’s obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor’s noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*).

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (6) provides:

No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with the state in matters in which he was directly involved during his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved in state government. This subsection shall not prohibit the performance of ministerial functions, including, but not limited to, filing tax returns, filing applications for permits or licenses, or filing incorporation papers.

KRS 11A.040 (8) states:

A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

General Decision Number: KY150100 09/25/2015 KY100

Superseded General Decision Number: KY20140100

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).

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

Modification Number	Publication Date
0	01/02/2015
1	01/23/2015
2	01/30/2015
3	02/20/2015
4	05/01/2015
5	05/22/2015
6	06/05/2015
7	06/12/2015
8	06/19/2015
9	08/21/2015
10	09/04/2015
11	09/11/2015
12	09/25/2015

BRIN0004-003 06/01/2011

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER.....	\$ 24.11	10.07

BRKY0001-005 06/01/2015

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE,
MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE
COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 25.96	10.64

BRKY0002-006 06/01/2011

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 26.57	10.26

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 05/01/2015

	Rates	Fringes
CARPENTER.....	\$ 27.50	16.06
Diver.....	\$ 41.63	16.06
PILEDRIVERMAN.....	\$ 27.75	16.06

ELEC0212-008 06/01/2015

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 27.03	17.02

ELEC0212-014 12/01/2014

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
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Sound & Communication
Technician.....\$ 22.75 10.08

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 05/27/2015

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.....	\$ 30.01	15.65

ELEC0575-002 06/02/2014

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 31.70	14.21

ENGI0181-018 07/01/2015

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 29.95	14.40
GROUP 2.....	\$ 27.26	14.40
GROUP 3.....	\$ 27.68	14.40
GROUP 4.....	\$ 26.96	14.40

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; Gurrries;
Heavy Equipment Robotics Operator/Mechanic; High Lift;
Hoe-Type Machine; Hoist (Two or More Drums); Hoisting
Engine (Two or More Drums); Horizontal Directional Drill
Operator; 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 Concrete 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 06/01/2015

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.....	\$ 23.76	19.15
Structural.....	\$ 26.40	19.15

 IRON0070-006 06/01/2015

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.....	\$ 27.56	20.30

 IRON0372-006 06/15/2015

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, Elmsville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall) COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 27.00	19.00

IRON0769-007 06/01/2015		

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		
ZONE 1.....	\$ 31.33	22.39
ZONE 2.....	\$ 31.73	22.39
ZONE 3.....	\$ 33.33	22.39
ZONE 1 - Up to 10 mile radius of Union Hall, Ashland, Ky., 1643 Greenup Ave.		
ZONE 2 - 10 to 50 mile radius of Union Hall, Ashland, Ky., 1643 Greenup Ave.		
ZONE 3 - 50 mile radius & over of Union Hall, Ashland, Ky., 1643 Greenup Ave.		

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; Bushhammer; 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

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; Bushhammer; 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

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; Bushhammer; 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

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 05/01/2015

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

	Rates	Fringes
PAINTER (Heavy & Highway		

Bridges - Guardrails -
Lightpoles - Striping)

Bridge Equipment Tender and Containment Builder.....	\$ 20.73	9.06
Brush & Roller.....	\$ 23.39	9.06
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement.....	\$ 24.39	9.06
Sandblasting & Water Blasting.....	\$ 24.14	9.06
Spray.....	\$ 23.89	9.06

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	11.97
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning.....	\$ 19.50	11.97

PAIN1072-003 12/01/2014

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations.....	\$ 31.83	15.30
Power Generating Facilities.....	\$ 28.59	15.30

* PLUM0248-003 06/01/2015

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
Plumber and Steamfitter.....	\$ 34.00	19.04

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

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

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

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

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

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

4.) All decisions by the Administrative Review Board are final.
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END OF GENERAL DECISION

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

These rates are listed pursuant to the Kentucky Determination No. CR-15-III- HWY dated July 20, 2015.

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.

Director
Division of Construction Procurement
Frankfort, Kentucky 40622
502-564-3500

**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

PROPOSAL BID ITEMS

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Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	12,185.00	TON		\$	
0020	00020		TRAFFIC BOUND BASE	369.00	TON		\$	
0030	00100		ASPHALT SEAL AGGREGATE	67.00	TON		\$	
0040	00103		ASPHALT SEAL COAT	9.00	TON		\$	
0050	00190		LEVELING & WEDGING PG64-22	276.00	TON		\$	
0060	00214		CL3 ASPH BASE 1.00D PG64-22	12,097.00	TON		\$	
0070	00221		CL2 ASPH BASE 0.75D PG64-22	724.00	TON		\$	
0080	00301		CL2 ASPH SURF 0.38D PG64-22	369.00	TON		\$	
0090	00307		CL2 ASPH SURF 0.38B PG64-22	106.00	TON		\$	
0100	00388		CL3 ASPH SURF 0.38B PG64-22	2,132.00	TON		\$	
0110	02099		CEM CONC ENT PAVEMENT-6 IN	172.00	SQYD		\$	
0120	02101		CEM CONC ENT PAVEMENT-8 IN	77.00	SQYD		\$	
0130	20071EC		JOINT ADHESIVE	14,781.00	LF		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0140	01314		PLUG PIPE	4.00	EACH		\$	
0150	01811		STANDARD CURB AND GUTTER MOD	641.00	LF		\$	
0160	01917		STANDARD BARRIER MEDIAN TYPE 2	1,731.00	SQYD		\$	
0170	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	14.00	EACH		\$	
0180	01986		DELINEATOR FOR BARRIER WALL-B/Y	6.00	EACH		\$	
0190	01990		DELINEATOR FOR BARRIER WALL-B/W	2.00	EACH		\$	
0200	02014		BARRICADE-TYPE III	16.00	EACH		\$	
0210	02159		TEMP DITCH	5,932.00	LF		\$	
0220	02200		ROADWAY EXCAVATION	78,236.00	CUYD		\$	
0230	02223		GRANULAR EMBANKMENT	10.00	CUYD		\$	
0240	02242		WATER (FOR DUST CONTROL)	5.00	MGAL		\$	
0250	02262		FENCE-WOVEN WIRE TYPE 1	4,011.00	LF		\$	
0260	02351		GUARDRAIL-STEEL W BEAM-S FACE	1,160.00	LF		\$	
0270	02360		GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH		\$	
0280	02391		GUARDRAIL END TREATMENT TYPE 4A	3.00	EACH		\$	
0290	02429		RIGHT-OF-WAY MONUMENT TYPE 1	55.00	EACH		\$	
0300	02432		WITNESS POST	10.00	EACH		\$	
0310	02469		CLEAN SINKHOLE	3.00	EACH		\$	
0320	02484		CHANNEL LINING CLASS III	226.00	TON		\$	
0330	02545		CLEARING AND GRUBBING (APPROXIMATELY 20.4 ACRES)	1.00	LS		\$	
0340	02555		CONCRETE-CLASS B	3.00	CUYD		\$	
0350	02562		TEMPORARY SIGNS	1,339.80	SQFT		\$	
0360	02585		EDGE KEY	72.00	LF		\$	
0370	02596		FABRIC-GEOTEXTILE TYPE I	226.00	SQYD		\$	
0380	02598		FABRIC-GEOTEXTILE TYPE III	1,200.00	SQYD		\$	
0390	02599		FABRIC-GEOTEXTILE TYPE IV	28,051.00	SQYD		\$	
0400	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	5,227.00	SQYD	\$2.00	\$	\$10,454.00

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0410	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0420	02651		DIVERSIONS (BY-PASS DETOURS)	1.00	LS		\$	
0430	02655		CROSSOVER	1.00	LS		\$	
0440	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		\$	
0450	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0460	02677		ASPHALT PAVE MILLING & TEXTURING	172.00	TON		\$	
0470	02690		SAFELOADING	30.00	CUYD		\$	
0480	02701		TEMP SILT FENCE	5,932.00	LF		\$	
0490	02703		SILT TRAP TYPE A	20.00	EACH		\$	
0500	02704		SILT TRAP TYPE B	20.00	EACH		\$	
0510	02705		SILT TRAP TYPE C	20.00	EACH		\$	
0520	02706		CLEAN SILT TRAP TYPE A	60.00	EACH		\$	
0530	02707		CLEAN SILT TRAP TYPE B	60.00	EACH		\$	
0540	02708		CLEAN SILT TRAP TYPE C	60.00	EACH		\$	
0550	02720		SIDEWALK-4 IN CONCRETE	41.00	SQYD		\$	
0560	02726		STAKING	1.00	LS		\$	
0570	03171		CONCRETE BARRIER WALL TYPE 9T (MOT)	160.00	LF		\$	
0580	03171		CONCRETE BARRIER WALL TYPE 9T (DIVERSION A)	140.00	LF		\$	
0590	05950		EROSION CONTROL BLANKET	17,930.00	SQYD		\$	
0600	05952		TEMP MULCH	98,849.00	SQYD		\$	
0610	05953		TEMP SEEDING AND PROTECTION	98,849.00	SQYD		\$	
0620	05963		INITIAL FERTILIZER	5.10	TON		\$	
0630	05964		20-10-10 FERTILIZER	3.10	TON		\$	
0640	05985		SEEDING AND PROTECTION	59,563.00	SQYD		\$	
0650	05989		SPECIAL SEEDING CROWN VETCH	8,401.00	SQYD		\$	
0660	05990		SODDING	444.00	SQYD		\$	
0670	05992		AGRICULTURAL LIMESTONE	61.30	TON		\$	
0680	06510		PAVE STRIPING-TEMP PAINT-4 IN	10,000.00	LF		\$	
0690	06514		PAVE STRIPING-PERM PAINT-4 IN	19,678.00	LF		\$	
0700	06515		PAVE STRIPING-PERM PAINT-6 IN	1,302.00	LF		\$	
0710	06516		PAVE STRIPING-PERM PAINT-8 IN	513.00	LF		\$	
0720	06530		PAVE STRIPING REMOVAL-4 IN	2,500.00	LF		\$	
0730	06541		PAVE STRIPING-THERMO-4 IN Y	525.00	LF		\$	
0740	06546		PAVE STRIPING-THERMO-12 IN W	62.00	LF		\$	
0750	06550		PAVE STRIPING-TEMP REM TAPE-W	1,000.00	LF		\$	
0760	06551		PAVE STRIPING-TEMP REM TAPE-Y	1,000.00	LF		\$	
0770	06555		PAVE STRIPING-DUR TY 1-4 IN Y	105.00	LF		\$	
0780	06562		PAVE MARKING-THERMO R 6 FT	2.00	EACH		\$	
0790	06563		PAVE MARKING-R/R XBUCKS 16 IN	43.00	LF		\$	
0800	06567		PAVE MARKING-THERMO STOP BAR-12IN	15.00	LF		\$	
0810	06568		PAVE MARKING-THERMO STOP BAR-24IN	341.00	LF		\$	
0820	06569		PAVE MARKING-THERMO CROSS-HATCH	750.00	SQFT		\$	
0830	06572		PAVE MARKING-DOTTED LANE EXTEN	915.00	LF		\$	
0840	06574		PAVE MARKING-THERMO CURV ARROW	20.00	EACH		\$	
0850	06576		PAVE MARKING-THERMO ONLY	2.00	EACH		\$	
0860	06578		PAVE MARKING-THERMO MERGE ARROW	4.00	EACH		\$	
0870	08100		CONCRETE-CLASS A	6.00	CUYD		\$	
0880	08150		STEEL REINFORCEMENT	50.00	LB		\$	
0890	08901		CRASH CUSHION TY VI CLASS BT TL2	1.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0900	10020NS		FUEL ADJUSTMENT	42,491.00	DOLL	\$1.00	\$	\$42,491.00
0910	10030NS		ASPHALT ADJUSTMENT	61,396.00	DOLL	\$1.00	\$	\$61,396.00
0920	20550ND		SAWCUT PAVEMENT	2,329.00	LF		\$	
0930	20601ES213		CLEAN TEMPORARY SILT DITCH	17,796.00	LF		\$	
0940	21289ED		LONGITUDINAL EDGE KEY	1,343.00	LF		\$	
0950	21341ND		BOLLARDS	3.00	EACH		\$	
0960	23158ES505		DETECTABLE WARNINGS	110.00	SQFT		\$	
0970	23274EN11F		TURF REINFORCEMENT MAT 1	5,291.00	SQYD		\$	
0980	23275EN11F		TURF REINFORCEMENT MAT 2	342.00	SQYD		\$	
0990	24814EC		PIPELINE INSPECTION	2,330.00	LF		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1000	00441		ENTRANCE PIPE-18 IN	190.00	LF		\$	
1010	00462		CULVERT PIPE-18 IN	199.00	LF		\$	
1020	00464		CULVERT PIPE-24 IN	150.00	LF		\$	
1030	00466		CULVERT PIPE-30 IN	253.00	LF		\$	
1040	00468		CULVERT PIPE-36 IN	11.00	LF		\$	
1050	00521		STORM SEWER PIPE-15 IN	293.00	LF		\$	
1060	00522		STORM SEWER PIPE-18 IN	677.00	LF		\$	
1070	00524		STORM SEWER PIPE-24 IN	208.00	LF		\$	
1080	00526		STORM SEWER PIPE-30 IN	539.00	LF		\$	
1090	01000		PERFORATED PIPE-4 IN	1,455.00	LF		\$	
1100	01010		NON-PERFORATED PIPE-4 IN	24.00	LF		\$	
1110	01028		PERF PIPE HEADWALL TY 3-4 IN	1.00	EACH		\$	
1120	01204		PIPE CULVERT HEADWALL-18 IN	1.00	EACH		\$	
1130	01208		PIPE CULVERT HEADWALL-24 IN	1.00	EACH		\$	
1140	01210		PIPE CULVERT HEADWALL-30 IN	3.00	EACH		\$	
1150	01433		SLOPED BOX OUTLET TYPE 1-18 IN	1.00	EACH		\$	
1160	01434		SLOPED BOX OUTLET TYPE 1-24 IN	1.00	EACH		\$	
1170	01450		S & F BOX INLET-OUTLET-18 IN	3.00	EACH		\$	
1180	01451		S & F BOX INLET-OUTLET-24 IN	2.00	EACH		\$	
1190	01453		S & F BOX INLET-OUTLET-36 IN	1.00	EACH		\$	
1200	01456		CURB BOX INLET TYPE A	1.00	EACH		\$	
1210	01457		CURB BOX INLET TYPE A B	5.00	EACH		\$	
1220	01496		DROP BOX INLET TYPE 3	5.00	EACH		\$	
1230	01535		DROP BOX INLET TYPE 6F	2.00	EACH		\$	
1240	01544		DROP BOX INLET TYPE 11	2.00	EACH		\$	
1250	01767		MANHOLE TYPE C	1.00	EACH		\$	

Section: 0004 - UTILITY - AT&T

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1260	17500		EC COMMUNICATIONS MANHOLE INST	2.00	EACH		\$	
1270	17503		EC DUCT - 02 BANK INST	380.00	LF		\$	

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Section: 0005 - SEWER

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1280	15025		S ENCASMENT STEEL OPEN CUT RANGE 6	220.00	LF		\$	
1290	15092		S MANHOLE	2.00	EACH		\$	
1300	15093		S MANHOLE ABANDON/REMOVE	2.00	EACH		\$	
1310	15097		S MANHOLE RECONSTRUCT INVERT	2.00	EACH		\$	
1320	15118		S PIPE SPECIAL	926.00	LF		\$	

Section: 0006 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1330	06401		FLEXIBLE DELINEATOR POST-M/W	20.00	EACH		\$	
1340	06404		FLEXIBLE DELINEATOR POST-M/Y	9.00	EACH		\$	
1350	06406		SBM ALUM SHEET SIGNS .080 IN	483.70	SQFT		\$	
1360	06407		SBM ALUM SHEET SIGNS .125 IN	209.40	SQFT		\$	
1370	06410		STEEL POST TYPE 1	1,274.00	LF		\$	
1380	06490		CLASS A CONCRETE FOR SIGNS	1.60	CUYD		\$	
1390	21373ND		REMOVE SIGN	39.00	EACH		\$	
1400	21596ND		GMSS TYPE D	7.00	EACH		\$	
1410	24631EC		BARCODE SIGN INVENTORY	141.00	EACH		\$	

Section: 0007 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1420	04700		POLE 30 FT MTG HT	2.00	EACH		\$	
1430	04701		POLE 40 FT MTG HT	3.00	EACH		\$	
1440	04721		BRACKET 6 FT	1.00	EACH		\$	
1450	04722		BRACKET 8 FT	3.00	EACH		\$	
1460	04725		BRACKET 15 FT	1.00	EACH		\$	
1470	04740		POLE BASE	5.00	EACH		\$	
1480	04750		TRANSFORMER BASE	5.00	EACH		\$	
1490	04780		FUSED CONNECTOR KIT	14.00	EACH		\$	
1500	04793		CONDUIT-1 1/4 IN	500.00	LF		\$	
1510	04795		CONDUIT-2 IN	600.00	LF		\$	
1520	04820		TRENCHING AND BACKFILLING	900.00	LF		\$	
1530	04832		WIRE-NO. 12	756.00	LF		\$	
1540	04835		WIRE-NO. 4	4,365.00	LF		\$	
1550	04940		REMOVE LIGHTING	1.00	LS		\$	
1560	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	6.00	EACH		\$	
1570	21543EN		BORE AND JACK CONDUIT	200.00	LF		\$	
1580	24589ED		LED LUMINAIRE	8.00	EACH		\$	

Section: 0008 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1590	01089		STEEL ENCASMENT PIPE-BORE&JACK-18 IN (UNDER KY 146 AND CSX W/ CASING SPACERS)	190.00	LF		\$	
1600	14003		W CAP EXISTING MAIN (12-IN)	2.00	EACH		\$	
1610	14003		W CAP EXISTING MAIN (10-IN)	1.00	EACH		\$	
1620	14004		W DIRECTIONAL BORE (3 INCH PE CASING PIPE)	485.00	LF		\$	
1630	14009		W ENCASMENT STEEL BORED RANGE 4 (16-IN UNDER EXISTING KY 393 W/ CASING SPACERS)	40.00	LF		\$	
1640	14010		W ENCASMENT STEEL BORED RANGE 5 (18-IN UNDER I-71 RAMP W/ CASING SPACERS)	90.00	LF		\$	
1650	14011		W ENCASMENT STEEL BORED RANGE 6 (30-IN UNDER EXISTING COMMERCE PKWY W/ CASING SPACERS)	45.00	LF		\$	
1660	14011		W ENCASMENT STEEL BORED RANGE 6 (30-IN UNDER EXISTING KY 393 W/ CASING SPACERS)	40.00	LF		\$	
1670	14015		W ENCASMENT STEEL OPEN CUT RANGE 4 (16-IN UNDER PROPOSED KY 393 W/ CASING SPACERS)	245.00	LF		\$	
1680	14017		W ENCASMENT STEEL OPEN CUT RANGE 6 (30-IN UNDER PROPOSED KY 393 W/ CASING SPACERS)	175.00	LF		\$	
1690	14017		W ENCASMENT STEEL OPEN CUT RANGE 6 (30-IN UNDER PROPOSED COMMERCE PKWY W/ CASING SPACERS)	115.00	LF		\$	
1700	14019		W FIRE HYDRANT ASSEMBLY (6-IN)	2.00	EACH		\$	
1710	14022		W FLUSH HYDRANT ASSEMBLY (2-IN)	1.00	EACH		\$	
1720	14030		W METER RELOCATE	3.00	EACH		\$	
1730	14049		W PIPE DCTL IRON RSTRND JOINT 10 IN (WATER MAIN)	525.00	LF		\$	
1740	14050		W PIPE DCTL IRON RSTRND JOINT 12 IN (WATER MAIN)	120.00	LF		\$	
1750	14051		W PIPE DCTL IRON RSTRND JOINT 16 IN (WATER MAIN)	520.00	LF		\$	
1760	14061		W PIPE PVC 10 INCH (WATER MAIN)	2,215.00	LF		\$	
1770	14062		W PIPE PVC 12 INCH (WATER MAIN)	1,010.00	LF		\$	
1780	14076		W REMOVE TRANSITE (AC) PIPE	2,125.00	LF		\$	
1790	14077		W SERV PE/PLST LONG SIDE 1 IN	3.00	EACH		\$	
1800	14082		W SERV PE/PLST SHORT SIDE 1 IN	2.00	EACH		\$	
1810	14090		W TAPPING SLEEVE AND VALVE SIZE 2 (10-IN WET CONNECT)	1.00	EACH		\$	
1820	14097		W TIE-IN 12 INCH (DRY CONNECT)	1.00	EACH		\$	
1830	14098		W TIE-IN 16 INCH (DRY CONNECT)	1.00	EACH		\$	
1840	14102		W VALVE 02 INCH (& BOX)	1.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1850	14107		W VALVE 10 INCH (& BOX)	7.00	EACH		\$	
1860	14108		W VALVE 12 INCH (& BOX)	2.00	EACH		\$	
1870	14109		W VALVE 16 INCH (GATE VALVE W/ BEVEL GEAR OPERATOR & CAST IRON VALVE BOX)	3.00	EACH		\$	
1880	20333EN		SERVICE LINE (2-IN PE)	515.00	LF		\$	
1890	24665EX		RAILROAD COORDINATION	1.00	LS		\$	
1900	24699EC		INSERTION VALVE (12-IN)	1.00	EACH		\$	

Section: 0009 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1910	02568		MOBILIZATION	1.00	LS		\$	
1920	02569		DEMOBILIZATION	1.00	LS		\$	