CALL NO. 300

CONTRACT ID. 171025

BELL COUNTY

FED/STATE PROJECT NUMBER FD04 SPP 007 0119 000-004

DESCRIPTION PINEVILLE-HARLAN ROAD(US-119)

WORK TYPE GRADE, DRAIN & SURFACE WITH BRIDGE

PRIMARY COMPLETION DATE 6/30/2018

LETTING DATE: July 28,2017

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME July 28,2017. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

PLANS AVAILABLE FOR THIS PROJECT.

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

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PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 11

CONTRACT ID - 171025

FD04 SPP 007 0119 000-004

COUNTY - BELL

PCN - DE00701191725
FD04 SPP 007 0119 000-004

PINEVILLE-HARLAN ROAD(US-119) IMPROVE CONGESTION AND FREIGHT MOVEMENT BY CONSTRUCTING A TWO WAY LEFT TURN LANE AND PAGE SCHOOL TURN LANE., A DISTANCE OF 01.00 MILES.GRADE, DRAIN & SURFACE WITH BRIDGE SYP NO. 11-00189.00.

GEOGRAPHIC COORDINATES LATITUDE 36:43:50.00 LONGITUDE 83:39:48.00

COMPLETION DATE(S):

COMPLETED BY 06/30/2018 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 shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. When prescribed in said directives, the contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom shall be contacted through their individual Protection Notification Center. Non-compliance with these directives can result in the enforcement of penalties.

SPECIAL NOTE FOR COMPOSITE OFFSET BLOCKS

Contrary to the Standard Drawings (2016 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.

06/01/16

SPECIAL NOTE FOR RECIPROCAL PREFERENCE

Reciprocal preference to be given by public agencies to resident bidders

By reference, KRS 45A.490 to 45A.494 are incorporated herein and in compliance regarding the bidders residency. Bidders who want to claim resident bidder status should complete the Affidavit for Claiming Resident Bidder Status along with their bid in the Expedite Bidding Program. Submittal of the Affidavit should be done along with the bid in Bid Express.

NATIONAL HIGHWAY

Be advised this project is on the NATIONAL HIGHWAY SYSTEM.

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.

ASPHALT PAVEMENT RIDE QUALITY CATEGORY A

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

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.

PREAPPROVED UTILITY CONTRACTORS

The Preapproved Utility Contractors that must be used on this project will be listed under the General Utility Notes.

SPECIAL NOTE FOR INTELLIGENT COMPACTION OF ASPHALT MIXTURES

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction current edition.

1.0 DESCRIPTION. Provide and use Intelligent Compaction (IC) Rollers for compaction of all asphalt mixtures.

2.0 MATERIALS AND EQUIPMENT. In addition to the equipment specified in Subsection 403.02, a minimum of one (1) IC roller is to be used on the project at all times. The Contractor may elect to only use one (1) IC roller for compaction as the breakdown or intermediate roller, but two (2) IC rollers are preferred to be used in the roller train. All IC rollers will meet the following minimum characteristics:

1) Are self propelled double-drum vibratory rollers equipped with accelerometers mounted in or about the drum to measure the interactions between the rollers and compacted materials in order to evaluate the applied compactive effort. The IC rollers must have the approval of the Engineer prior to use. Examples of rollers equipped with IC technology can be found at www.IntelligentCompaction.com.

2) Are equipped with non-contact temperature sensors for measuring pavement surface temperatures.

3) The output from the roller is designated as the IC-MV which represents the stiffness of the materials based on the vibration of the roller drums and the resulting response from the underlying materials.

4) Are equipped with integrated on-board documentation systems that are capable of displaying real-time color-coded maps of IC measurement values including the stiffness response values, location of the roller, number of roller passes, machine settings, together with the material temperature, speed and the frequency and amplitude of roller drums. Ensure the display unit is capable of transferring the data by means of a USB port.

5) Are equipped with a mounted Global Positioning System GPS radio and receiver either a Real Time Kinematic (RTK-GPS) or Global Navigational Satellite System (GNSS) units that monitor the location and track the number of passes of the rollers. Accuracy of the positioning system is to be a minimum of 12 inches.

3.0 WORK PLAN. Submit to the Engineer an IC Work Plan at the Preconstruction Conference and at least 2 weeks prior to the beginning construction. Describe in the work plan the following:

1. Compaction equipment to be used including:
   - Vendor(s)
   - Roller model(s),
   - Roller dimensions and weights,
   - Description of IC measurement system,
   - GPS capabilities,
   - Documentation system,
   - Temperature measurement system, and
   - Software.

2. Roller data collection methods including sampling rates and intervals and data file types.

3. Transfer of data to the Engineer including method, timing, and personnel responsible. Data transfer shall occur at minimum twice per day or as directed by the Engineer, and is to be either electronic or digital.

4. Training plan and schedule for roller operators, project foreman, project surveyors, and Cabinet personnel; including both classroom and field training. Training should be conducted at least 1 week before beginning IC construction. The training is to be performed by a qualified representative(s) from the IC Roller manufacture(s) to be used on the project.

4.0 CONSTRUCTION. Do not begin work until the Engineer has approved the IC submittals and the IC equipment.

Follow requirements established in Section 400 for production and placement, materials, equipment, acceptance plans and adjustments except as noted or modified in this Specification. Provide the Engineer at least one day's notice prior to beginning construction or prior to resuming production if operations have been temporarily suspended. Ensure paving equipment complies with all requirements specified in Section 400. The IC roller temperatures will be evaluated by the Department with the data from a Paver Mounted Infrared Temperature Gauge.

A. Pre-Construction Test Section(s) Requirements

1. Prior to the start of production, ensure the proper setup of the GPS, IC roller(s) and the rover(s) by conducting joint GPS correlation and verification testing between the Contractor, GPS representative and IC roller manufacturer using the same datum.

1. Ensure GPS correlation and verification testing includes the following minimum processes:

    a. Establish the GPS system to be used either one with a base station or one with mobile receivers only. Ensure all components in the system are set to the correct coordinate system; then,

    b. Verify that the roller and rover are working properly and that there is a connection with the base station; then,

    c. Record the coordinates of the two edges where the front drum of the roller is in contact with the ground from the on-board, color-coded display; then,

    d. Mark the locations of the roller drum edges and move the roller, and place the mobile receiver at each mark and record the readings; then,

2. Compare coordinates between the roller and rover receivers. If the coordinates are within 12.0 in. of each other, the comparison is acceptable. If the coordinates are not within 12.0 in., diagnose and perform necessary corrections and repeat the above steps until verification is acceptable.

3. Do not begin work until acceptable GPS correlation and verification has been obtained.

4. The Contractor and the Department should conduct random GPS verification testing during production to ensure data locations are accurate. The recommended rate is once per day with a requirement of at least once per week.

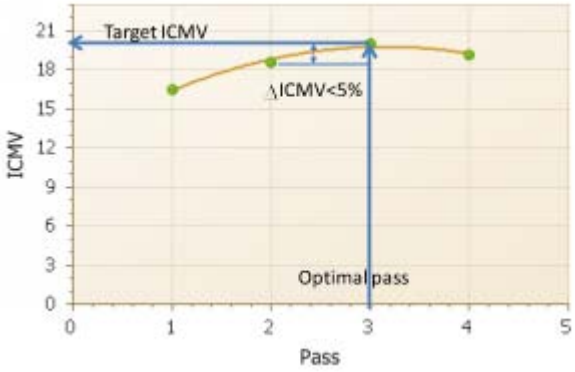
5. All acceptance testing shall be as outlined in Standard Specifications section 400.

B. Construction Test Section(s) Requirements

Construct test section(s) at location(s) agreed on by the Contractor and the Engineer within the project limits. The test section is required to determine a compaction curve of the asphalt mixtures in relationship to number of roller passes and to the stiffness of mixture while meeting the Department in-place compaction requirements. All rollers and the respective number of passes for each is to be determined via control strip each time a material change, equipment change or when the Engineer deems necessary.

Conduct test section(s) on every lift and every asphalt mixture. Ensure test section quantities 500 to 1,000 tons of mainline mixtures. Operate IC rollers in the low to medium amplitude range and at the same settings (speed, frequency) throughout the section while minimizing overlapping of the roller, **the settings are to be used throughout the project with no changes.** After each roller pass, the qualified technician from the contractor observed by the Department will use a nondestructive nuclear gauge that has been calibrated to the mixture to estimate the density of the asphalt at 10 locations uniformly spaced throughout the test section within the width of a single roller pass. The density readings and the number of roller passes needed to achieve the specified compaction will be recorded. The estimated target density will be the peak of the average of the nondestructive readings within the desired compaction temperature range for the mixture. The IC roller data in conjunction with the Veda software will create an IC compaction curve for the mixture. The target IC-MV is

the point when the increase in the IC-MV of the material between passes is less than 5 percent on the compaction curve. The IC compaction curve is defined as the relationship between the IC-MV and the roller passes. A compaction curve example is as follows:



Subsequent to the determination of the target IC-MV, compact an adjoining > 250 < 500 tons section using same roller settings and the number of estimated roller passes and allow the Department to verify the compaction with the same calibrated nondestructive nuclear gauge following the final roller pass. **The Department will obtain cores at 10 locations** uniformly spaced throughout the test section within the width of the single roller. Obtain GPS measurement of the core locations with a GPS rover. Use the Veda software to perform least square linear regression between the core data and IC-MV in order to correlate the production IC-MV values to the Department specified in-place air voids. A sample linear regression curve example is as follows.

C. Construction Requirements
Use the IC roller on all lifts and types of asphalt within the limits of the project.

Ensure the optimal number of roller passes determined from the test sections has been applied to a minimum coverage of 80% of the individual IC Construction area. Ensure a minimum of 75% of the individual IC Construction area meets the target IC-MV values determined from the test sections.

Do not continue paving operations if IC Construction areas not meeting the IC criteria are produced until they have been investigated by the Department. Obtain the Engineer's approval to resume paving operations. Non-IC rollers are allowed to be used as the third roller on the project; one of the breakdown or the finish rollers is to be equipped with IC technology.

IC Construction areas are defined as subsections of the project being worked continuously by the Contractor. The magnitude of the IC Construction areas may vary with production but must be at least 750 tons per mixture for evaluation.

Partial IC Construction areas of < 750 tons will be included in the previous area evaluation. IC Construction areas may extend over multiple days depending on the operations.

The IC Construction Operations Criteria does not affect the Department's acceptance processes for the materials or construction operations

5.0 MEASUREMENT. The Department will measure the total tons of asphalt mixtures compacted using the IC roller(s). Compaction is to be performed by a minimum of one IC roller, material compacted by rollers not equipped with properly functioning IC equipment will not be accepted for payment of the bid item asphalt mixtures IC rolled. Use of non-IC rollers can be accepted on small areas due to equipment malfunctions at the written approval of the Engineer. Paving operations should be suspended for equipment malfunctions that will extend over three days of operation.

6.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

1. Payment is full compensation for all work associated with providing IC equipped rollers, transmission of electronic data files, two copies of IC roller manufacturer software, and training.

2. Delays due to GPS satellite reception of signals to operate the IC equipment or IC roller breakdowns will not be considered justification for contract modifications or contract extensions.

Code	Pay Item	Pay Unit
24781EC	Intelligent Compaction for Asphalt	TON

May 4, 2015

SPECIAL NOTE FOR INTELLIGENT COMPACTION OF AGGREGATE BASES AND SOILS

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's current edition of the Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Provide and use Intelligent Compaction (IC) Rollers for compaction of Aggregate bases, soil, and soil rock mixtures.

2.0 MATERIALS AND EQUIPMENT. The Contractor shall supply sufficient numbers of rollers and other associated equipment necessary to complete the compaction requirements for the specific materials. The Contractor will determine the number of IC rollers to use depending on the scope of the project. The IC roller(s) may be utilized during production with other standard compaction equipment and shall be used for the evaluation of the compaction operations. Provide at least one (1) roller to be used on the project with the following minimum characteristics:

1) Are self propelled vibratory rollers equipped with machine drive power and/or accelerometers mounted in or about the drum to measure the interactions between the rollers and compacted materials in order to evaluate the applied Compactive effort. www.IntelligentCompaction.com contains a list of acceptable rollers equipped with IC technology.

2) IC rollers can be either smooth drums or pad footed drums based on the type needed for the aggregate base or soil types to compact.

3) The output from the roller is designated as the IC-MV which represents the stiffness of the materials based on the vibration of the roller drums and the resulting response from the underlying materials, or the machine drive power value.

4) Are equipped with integrated on-board documentation systems that are capable of displaying real-time color-coded maps of IC measurement values including the stiffness response values, location of the roller, number of roller passes, machine settings, together with the speed, the frequency and amplitude of roller drums. Ensure the display unit is capable of transferring the data by means of a USB port.

5) Are equipped with a mounted Global Positioning System GPS radio and receiver either a Real Time Kinematic (RTK-GPS) or Global Navigational Satellite System (GNSS) units that monitor the location and track the number of passes of the rollers. Accuracy of the positioning system must be within 12 inches.

3.0 WORK PLAN. Submit to the Engineer an IC Work Plan at the Preconstruction Conference and/or at least 2 weeks prior to beginning the corresponding construction activates. Describe in the work plan the following:

1. Compaction equipment to be used including:
    - Vendor(s)

- Roller model(s),
- Roller dimensions and weights,
- Description of IC measurement system,
- GPS capabilities,
- Documentation system,
- Software.

2. Roller data collection methods including sampling rates and intervals and data file types.

3. Transfer of data to the Engineer including method, timing, and personnel responsible. Data transfer shall occur at minimum twice per day or as directed by the Engineer. Data transfer is to be by electrical or digital means.

4. Provide the Section Engineer with a new laptop computer with the following minimum requirements: Windows 7 Pro 64bit, 4.0GHz processor, 4GB RAM, 500GB hard drive, DVD drive (reads and writes DVD/CD), and 14 inch display. This will become the property of the Cabinet upon delivery. The Cabinet retains possession of the equipment upon completion of the project.

5. Provide the Section Engineer the following new GPS survey equipment; this is a sole source item to ensure compatibility with the Cabinet's existing equipment, the Cabinet retains possession of the equipment upon completion of the project:

Item	Part No.	Description	Quantity
1	R8-004-66	Trimble R8-4, internal 450-470 MHz radio	2
2	TSC3-01-1120	Trimble TSC3, w/Trimble Access, with internal radio QWERTY Keypad	1
3	SA-ROADS-P	Trimble Access – Roads Perpetual License	1
4	43169-00	Rod - 2.0m Carbon Fiber Range Pole with Bipod	1
5	82758-00	Trimble TSC3 Accessory - Range Pole Bracket	1
6	74450-14	TDL 450H Field Battery Charger Kit	1
7	74450-96	TDL 450H – 35W Radio System Kit; 450-470 MHz	1
8	12178	Tripod - Wooden Medium Duty	1
9	74450-50-70	Antenna kit with 1.8m mast	1
10	28959-00	Tripod-Adjustable height 2M for GPS base	1

6. Training plan and schedule for roller operators, project foreman, project surveyors, and Cabinet personnel; including both classroom and field training from the equipment manufacturer. Training should be conducted at least 1 week before beginning IC construction. The training is to be performed by a qualified representative(s) from the IC Roller manufacture(s) to be used on the project.

4.0 CONSTRUCTION. Prior to the start of production, ensure the proper setup of the GPS, IC roller(s) and the rover(s) by conducting joint GPS correlation and verification

testing between the Contractor, GPS representative and IC roller manufacturer using the same datum. Use the project datum system (Northing, Easting and Elevation) when applicable.

1. Ensure GPS correlation and verification testing includes the following minimum processes:

    a. Establish the GPS system to be used either one with a base station or one with mobile receivers only. Ensure all components in the system are set to the correct coordinate system; then,

    b. Verify that the roller and rover are working properly and that there is a connection with the base station; then,

    c. Record the coordinates of the two edges where the front drum of the roller is in contact with the ground from the on-board, color-coded display; then,

    d. Mark the locations of the roller drum edges and move the roller, and place the mobile receiver at each mark and record the readings; then; then,

2. Compare coordinates between the roller and rover receivers. If the coordinates are within12.0 in. of each other, the comparison is acceptable. If the coordinates are not within 12.0 in., diagnose and perform necessary corrections and repeat the above steps until verification is acceptable.

3. Do not begin work until acceptable GPS correlation and verification has been obtained. The Contractor and the Department should conduct random GPS verification testing during production to ensure data locations are accurate. The recommended rate is once per day with a requirement of at least once per week.

4. A test strip is to be used for all materials (DGA, CSB, and soil) as outlined and sized in section 302.03.04 to determine optimum rolling pattern, for all materials, and the target density for aggregate bases. A new test strip will be required anytime the material changes, equipment changes, or proper compaction has not been obtained for two (2) consecutive test locations.

5. All acceptance testing shall be as outlined in Standard Specifications sections 200 and 300.

6. Any areas a minimum of 50 square feet in area not achieving the 80% of the stiffness value determined by the latest control strip shall be tested by other means approved by the Engineer. If the material doesn't pass the testing is shall be repaired based on current standards to the satisfaction of the Engineer.

5.0 MEASUREMENT. The Department will measure the total tons of aggregate base (DGA and/or CSB) and total cubic yards of soil compacted using the IC roller(s). The use of non-IC rollers is allowed on this project, but an IC roller must be used as well. What to do when have multiple compaction sites going at one time.

6.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

1. All areas with a minimum of 80% pass coverage and 75% required stiffness readings.

2. Payment is full compensation for all work associated with providing IC equipped rollers, transmission of electronic data files, all required survey equipment and computer, two copies of IC roller manufacturer software, and training.

3. Delays due to GPS satellite reception of signals to operate the IC equipment or IC roller breakdowns will not be considered justification for contract modifications or contract extensions.

Code	Pay Item	Pay Unit
24779EC	Intelligent Compaction for Soil	CY
24780EC	Intelligent Compaction for Aggregate	TON

March 2, 2015

KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF RIGHT OF WAY & UTILITIES

TC 62-226
Rev. 01/2016
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RIGHT OF WAY CERTIFICATION

☒ Original ☐ Re-Certification — RIGHT OF WAY CERTIFICATION

ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
11-189.00	Bell	FD04 007 0119 000-002	N/A

PROJECT DESCRIPTION

TWTL Bell County US 119 Pineville to Harlan Road

☐ **No Additional Right of Way Required**

Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

☒ **Condition # 1 (Additional Right of Way Required and Cleared)**

All necessary right 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. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

☐ **Condition # 2 (Additional Right of Way Required with Exception)**

The right of way has 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. 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. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

☐ **Condition # 3 (Additional Right of Way Required with Exception)**

The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation 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.

Total Number of Parcels on Project	7	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	7		
Condemnation			
Signed ROE			

Notes/ Comments (Use Additional Sheet if necessary)
Right of Way clear

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Greg Combs
Signature		Signature	
Date		Date	6-19-17
Right of Way Director		**FHWA**	
Printed Name		Printed Name	
Signature		Signature	
Date	19 June 17	Date	

KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF RIGHT OF WAY & UTILITIES

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RIGHT OF WAY CERTIFICATION

☒ Original ☐ Re-Certification — RIGHT OF WAY CERTIFICATION

ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
11-8701.00	Bell	FD04 007 0119 003-004	N/A

PROJECT DESCRIPTION

Page School Turn Lane US 119 Pinevill to Harlan Road

☐ **No Additional Right of Way Required**

Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

☒ **Condition # 1 (Additional Right of Way Required and Cleared)**

All necessary right 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. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

☐ **Condition # 2 (Additional Right of Way Required with Exception)**

The right of way has 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. 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. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

☐ **Condition # 3 (Additional Right of Way Required with Exception)**

The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation 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.

Total Number of Parcels on Project	12	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	12		
Condemnation	N/A		
Signed ROE			

Notes/ Comments (Use Additional Sheet if necessary)
Right of Way clear

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Greg Combs
Signature		Signature	
Date		Date	6-15-17
Right of Way Director		**FHWA**	
Printed Name		Printed Name	
Signature		Signature	
Date	19 Jun 17	Date	

UTILITIES AND RAIL CERTIFICATION NOTE

BELL COUNTY
FD04 007 86549 01U
US119 TWTL
11-189.00

GENERAL PROJECT NOTE ON UTILITY PROTECTION

Care should be exercised when operating under overhead lines and/or near underground lines.

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

N/A

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

Delta Gas has relocated a 4" plastic line along the right side of the proposed roadway from approximately STA 52+00 to 89+95. There is a crossing at approx. STA 59+60, 61+00, & 75+00. KU, Windstream, AT&T, & Charter have relocated overheads in conflict. Relocation is complete & poles currently in the field will remain.

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

N/A

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

Pineville Utility Commission waterline is to be relocated by the highway contractor as detailed in the waterline relocation plans & specifications. As stated in the General Utility Notes, KYTC bid item notes & Standard Specifications shall take precedence in the event of conflicting notes or specifications. Work shall be coordinated with the Utility Commission and Vaughn & Melton Engineering.

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)**

UTILITIES AND RAIL CERTIFICATION NOTE

BELL COUNTY
FD04 007 86549 01U
US119 TWTL
11-189.00

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

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.

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

BELL COUNTY
FD04 007 86549 01U
US119 TWTL
11-189.00

AREA UTILITIES CONTACT LIST

Utility Company/Agency	Contact Name	Contact Information
Pineville Utility Commission	**Bill Bunch**	**606-337-6611**
Vaughn & Melton Engineering	**Mitch Brunsma**	**606-248-6600**
KU	**John Alderson**	**606-337-0303**
AT&T	**O'dell Keene**	**606-248-7243**
Delta Gas	**Brian Sidwell**	**859-744-6171x1234**
Charter Communications	**Darrell Nave**	**606-425-5885**
Windstream	**Jim Venturino**	**810-515-3168**

UTILITIES AND RAIL CERTIFICATION NOTE

BELL COUNTY
FD04 007 86691 01U
US119 Page School Turn Lane
11-8701.00

GENERAL PROJECT NOTE ON UTILITY PROTECTION

The pole shown in the proposed ditch at approx. LT STA 222+70 is an electrical drop to serve the school flashing signal off project to the south. The contractor should coordinate with KYTC District 11 Traffic who will replace the signal with a solar powered unit & remove the electrical drop.
Care should be exercised when operating under overhead lines.
Delta Gas has underground facilities in the area of the project that should not be disturbed.

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

KU has placed a three phase electric pole just outside disturbed limits at approx. LT STA 222+70 that is not shown on the plans. This pole will remain in place.

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

Delta Gas has relocated a 4" plastic line along the right side of the proposed roadway from approximately STA 208+40 to STA 219+00. There is a road crossing at approximately STA 219+50. Plans showing the relocation will be provided.
KU has removed 3 poles that previously served parcel 19.

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

N/A

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

Pineville Utility Commission waterline is to be relocated by the highway contractor as detailed in the waterline relocation plans & specifications. As stated in the General Utility Notes, KYTC bid item notes & Standard Specifications shall take precedence in the event of conflicting notes or specifications. Work shall be coordinated with the Utility Commission and Vaughn & Melton Engineering.

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)**

UTILITIES AND RAIL CERTIFICATION NOTE

BELL COUNTY
FD04 007 86691 01U
US119 Page School Turn Lane
11-8701.00

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

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.

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

BELL COUNTY
FD04 007 86691 01U
US119 Page School Turn Lane
11-8701.00

AREA UTILITIES CONTACT LIST

Utility Company/Agency	Contact Name	Contact Information
Pineville Utility Commission	**Bill Bunch**	**606-337-6611**
Vaughn & Melton Engineering	**Mitch Brunsma**	**606-248-6600**
KU	**John Alderson**	**606-337-0303**
AT&T	**O'dell Keene**	**606-248-7243**
Delta Gas	**Brian Sidwell**	**859-744-6171x1234**
Charter Communications	**Darrell Nave**	**606-425-5885**

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:

Contractors preapproved by Pineville Utility Commission:

- Akins Excavating – Corbin, KY
- Ash Mountain, Inc. – Harlan, KY
- Irvine Contracting – London, KY

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 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:

No materials are being supplied by the utility owner. All materials are to be supplied by the contractor per bid item descriptions, utility specifications, and utility plans.

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.

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 ENCASEMENT 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 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) when complete.

W 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 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 compete 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 compete 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 LEAK DETECTION METER This item is for payment for installation of a water meter at main valve locations where shown on the plans for detection of water main leaks. The meter shall be of the size and type specified in the plans or specifications. This item shall include all labor, equipment, meter, meter box or vault, connecting pipes between main and meter, main taps, tapping saddles, 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. No separate payment will be made under any other contract item for connecting pipe or main taps. Any and all leak detection meters 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 and ready for use.

W LINE MARKER This item is for payment for furnishing and installing a 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, sanitizing, 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 include all temporary and permanent materials and equipment required to pressure test and sanitize mains including, but not limited to, pressurization pumps, hoses, tubing, gauges, main taps, saddles, temporary main end caps or plugs and blocking, main end taps for flushing, chlorine liquids or tablets for sanitizing, water for testing/sanitizing and flushing (when not supplied by the utility), chlorine neutralization equipment and materials, and any other items needed to accomplish pressure testing and sanitizing the main installation. 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 were 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.

SPECIFICATIONS

US 119 WATERLINE RELOCATIONS

BELL COUNTY, KENTUCKY

- Prepared for -

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- Prepared by -

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August 2015

SPECIFICATIONS

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DIVISION 1 - GENERAL REQUIREMENTS

SECTION 1.1 SUMMARY OF WORK

The work to be performed under this contract includes the furnishing of all labor, materials, and incidentals necessary for the construction of waterline and associated appurtenances.

All work shall be in accordance with the Contract Documents. It is the intent of the Contract Documents to make a complete and workable system, whether every item is specifically mentioned or not.

SECTION 1.2 MEASUREMENT AND PAYMENT

SECTION 1.2.1 GENERAL

Payment for all work covered by these Specifications, the Drawings, Supplemental General Conditions, and Addenda will be at the unit prices bid for the various items of work, installed or constructed, in place and accepted in the final work. The unit prices bid will be used as a basis for computing and checking pay estimates.

Unit prices bid for the various items of work will be used in assigning values for additions or deletions to the work.

The CONTRACTOR will be paid for bid items suitably stored which are to be incorporated into the work when the materials are stored at a specific area on the job site. The amount of payment to the CONTRACTOR will be the actual cost of the material (up to the quantities listed in the bid) less ten percent (10%) retainage. Materials which are not bid items (such as adapters, tees, ells, reducers, plugs, and other incidentals) will not be paid for as materials stored.

SECTION 1.2.2 ITEMS AND MEASUREMENT

The following items will be paid for as specified below and will constitute full payment for all labor, equipment, and materials necessary to complete the work. All other items and work will be considered incidental.

Polyethylene (PE) Waterline, per linear foot of the sizes and pressure class called for
Steel Encasement Pipe – Open Cut, per linear foot of the sizes called for
Tie to Existing Water Line (Wet Tap), per each of the sizes called for
Tie to Existing Water Line (Dry), per each of the sizes called for
Gate Valve, per each of the sizes called for
Fire Hydrant, per each
Remove & Abandon Existing Fire Hydrant, per
Post Hydrant, per each
Cap & Abandon Existing Waterline, per each
Water Service Setting, per each
¾” Copper Service Line, per linear foot
Re-Connect Water Service, per each
Concrete Encasement, per linear foot

Pipe will be measured as the actual lengths installed.

The per each items will be measured in place.

Payment for Bid Item “Re-Connect Water Service” shall include all labor and materials (including PE service line) to re-connect customer’s existing service line to new meter vault.

Payment for Bid Item “Water Service Setting” shall include all labor and materials to install a new water meter and meter vault, including the service saddle, corporation stop, etc. at the main; not including the copper service line from the main to the meter vault, which will be paid separately.

All existing water meters and vaults within project disturb limits shall be removed and abandoned. All equipment shall be the property of the Pineville Utility Commission and shall be turned over to them after removal.

SECTION 1.3 FIELD ENGINEERING

The ENGINEER will provide horizontal and vertical control prior to the beginning of construction.

The CONTRACTOR shall lay out his own work, lines, reference lines, measurements, levels, and grades, subject to the checking and directions of the ENGINEER.

SECTION 1.4 ABBREVIATIONS AND SYMBOLS

Abbreviations of standards, codes, and publications used within these Specifications are as follow:

AASHTO	American Association of State Highway and Transportation Officials
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
KRS	Kentucky Revised Statutes
KY DOT	Kentucky Transportation Cabinet, Department of Highways, "Standard Specifications for Road and Bridge Construction"
NSF	National Sanitation Foundation

All references are to the latest available edition unless otherwise noted.

SECTION 1.5 SHOP DRAWINGS

The CONTRACTOR shall submit to the ENGINEER prior to the start of work, six (6) copies each of detailed shop drawings, engineering and test data, and specifications for all items of material or equipment to be used in the work. The ENGINEER will return three (3) copies of each shop drawing within ten (10) days after their submittal.

Shop drawings shall be submitted on all materials used on this project. Each item of equipment proposed shall be a standard catalog product of an established manufacturer. The shop drawing shall give complete information on the proposed equipment. Each item of the shop drawings shall be properly labeled, indicating the intended service of the material, the job name, and CONTRACTOR's name.

The shop drawings shall be submitted to the ENGINEER with a letter of transmittal. The letter of transmittal shall list each item submitted along with the manufacturer's name. All submittals shall have signatures by the CONTRACTOR certifying that they have reviewed and approved the submittals prior to submission to the ENGINEER.

Approval rendered on shop drawings shall not be considered as a guarantee of measurements or building conditions. Where drawings are approved, said approval does not mean that drawings have been checked in detail; said approval does not in any way relieve the CONTRACTOR from his responsibility or necessity of furnishing material or performing work as required by the Contract Drawings and Specifications.

No material or equipment shall be incorporated in the work without having previously been submitted to the ENGINEER for approval and having subsequently received approval in writing from the ENGINEER.

SECTION 1.6 PROJECT RECORD DRAWINGS

The CONTRACTOR shall accurately record the location of pipe runs, manholes, connections, valves, fire hydrants, etc., and any uncharted utilities. These drawings shall be submitted to the ENGINEER before or with the final payment estimate.

SECTION 1.7 SECURITY

SECTION 1.7.1 PROTECTION OF EXISTING IMPROVEMENTS

Prior to commencing construction operations, the CONTRACTOR shall make all the provisions necessary to assure the protection of all existing improvements.

The CONTRACTOR shall thoroughly document the existing condition of all structures, landscaping, pavement, and improvements located in all locations where the work may result in actual damage or in damage claims. The method of providing this documentation of existing conditions shall be video tape, and a complete tape or set of tapes shall be available to the OWNER and the ENGINEER to help settle any disputes which may arise concerning work that is required to return property to its original condition or concerning property damage.

Adequate protection shall be provided for all lawns, trees, shrubs, landscape work, fences, sidewalks, hydrants, utility poles, street, alley and driveway paving, curbs, storm sewers, ditches, headwalls, catch basins, surface inlets and all other improvements that are to remain in place. Such protection shall be provided as long as necessary to prevent damage from the CONTRACTOR's operations. Shrubs, bushes, small trees, and flowers which have to be removed shall be protected and replanted or replaced when the backfill is complete.

The CONTRACTOR shall exercise every precaution to prevent damage to property within and outside easements. He shall remove all debris and rock from the site and restore the ground surfaces, replace or repair all driveways, buildings, fences, retaining walls, culverts, drains, paving, sidewalks, etc., which were removed or damaged during construction to a condition as good as or better than existed before the construction.

The CONTRACTOR shall notify each property owner of his schedule to work in the easement on their property before he enters upon their property. Repair, restoration or replacement of any damaged or removed improvements shall be the obligation of the CONTRACTOR at no additional cost to the OWNER.

SECTION 1.7.2 PROTECTION OF TREES AND SHRUBS

The CONTRACTOR shall make every effort to preserve as many trees and shrubs as possible. Where branches of trees or shrubs interfere with the CONTRACTOR'S operations, they shall be protected by tying wherever possible. No limbs or branches shall be cut without written permission of the property owner.

If his operations will not permit saving certain trees, the CONTRACTOR shall be wholly responsible for satisfying all claims for restoration or restitution resulting from their damage or removal. Trees may be removed only when the ENGINEER approves the cutting, based on information showing that the CONTRACTOR'S operations will be unduly restricted if the trees are not removed. The OWNER will attempt to obtain the right to cut trees in the easements which interfere with normal operations of the CONTRACTOR. Any trees whose stumps will not be removed shall be cut smoothly at the ground surface. The CONTRACTOR shall dispose of all trees and brush. Burning on the site will be permitted only if approved by the property owner and with a permit from the applicable regulatory agencies.

SECTION 1.7.3 DANGER SIGNALS AND SAFETY DEVICES

The CONTRACTOR shall make all necessary precautions to guard against damages to property and injury to persons. He shall put up and maintain in good condition sufficient red or warning lights at night, suitable barricades and other devices necessary to protect the public. In case the CONTRACTOR fails or neglects to take such precautions, the OWNER may have such lights and barricades installed and charge the cost of this work to the CONTRACTOR. Such action by the OWNER does not relieve the CONTRACTOR of any liability incurred under these Contract Documents.

SECTION 1.7.4 USE OF EXPLOSIVES

When the use of explosives is necessary, the CONTRACTOR shall observe all local, state and federal laws in purchasing and handling explosives. The CONTRACTOR shall take all necessary precautions to protect completed work, neighboring property, waterlines, or other underground structures. Where there is danger to structures or property from blasting, the charges shall be reduced and the material shall be covered with suitable timber, steel or rope mats.

The CONTRACTOR shall notify all owners of public utility property of his intention to use explosives at least eight hours before blasting is done close to such property. Any supervision or direction of the use of explosives by the ENGINEER does not in any way reduce the responsibility of the CONTRACTOR or his surety for damages that may be caused by such use.

SECTION 1.7.5 EXISTING UTILITIES

1) The CONTRACTOR shall notify all companies with existing utilities in the area prior to excavation. CONTRACTOR shall follow their procedures for crossing, repair, etc. of such utilities.

2) The appropriate utility companies shall be given five (5) working days advance notice before work is begun. Where revamping of facilities will be required, at least two weeks advance notice shall be given to the utility company in order to allow sufficient time for engineering work to be completed. On major revamps or relocations, longer notice may be necessary.

3) No blasting shall be done within 10 feet of a utility unless a representative of the affected utility company is present.

4) Cables, ropes or attachments of any sort shall not be attached to utility poles.

5) If damage to an existing utility should occur, the CONTRACTOR shall notify the appropriate utility company immediately.

SECTION 1.7.5.1 UNDERGROUND UTILITIES

The locations of existing underground structures are shown on the Drawings in an approximate way only. The CONTRACTOR shall verify the locations of these or any other underground structures and attempt to avoid damaging them. He shall make suitable arrangements with the utility or service company involved to cut and repair, remove and replace, abandon or relocate any structure so encountered.

The CONTRACTOR agrees to be fully responsible for any and all damages which might be caused by failure to locate and preserve any and all underground utilities.

The CONTRACTOR is advised to exercise caution in his operations in areas where the Drawings indicate the presence of a telephone conduit, gas line, or lines carrying hazardous material.

SECTION 1.8 TEMPORARY CONTROLS

SECTION 1.8.1 CONSTRUCTION CLEANING

The CONTRACTOR's cleanup operations shall be performed continuously during construction.

SECTION 1.8.2 DUST CONTROL

The CONTRACTOR shall make such provisions as are necessary for controlling all dust resulting from his operations at all times when such dust would, in any way, interfere with or cause any delay or other inconvenience to traffic, both vehicular and pedestrian, or have any detrimental effect upon the environment.

SECTION 1.8.3 EROSION AND SEDIMENTATION CONTROL

The CONTRACTOR shall exercise every reasonable precaution at all times to prevent the pollution of all streams. No partially completed item of work shall be left in a manner that will contribute to erosion during the period in which work on the item is suspended.

The CONTRACTOR shall comply with the applicable provisions of KRS Chapters 220 and 224 of the State Water Pollution Control Laws and other applicable statutes relating to the prevention or abatement of water pollution. He shall also comply with the requirements of any Federal or State agency which may have jurisdictional control over the land through which the project is constructed.

SECTION 1.9 TRAFFIC REGULATION

SECTION 1.9.1 INTERFERENCE WITH AND PROTECTION OF HIGHWAYS

The CONTRACTOR shall not close or obstruct any portion of any existing highway, street or alley without obtaining a written permit therefore from the proper authority, a copy of which shall be filed with the ENGINEER, prior to the closing or obstructing thereof.

The CONTRACTOR shall store, pile and confine in a satisfactory manner materials and equipment so as not to damage any highway, street, alley, sidewalk, grassed or loamed surface, building, fence or other property, either public or private, on or adjacent to the work.

SECTION 1.9.2 MAINTENANCE OF PUBLIC TRAVEL

Public travel shall be maintained undisturbed wherever and whenever possible. Detours shall be provided when so directed by the local officials or when required by the addenda. Emergency vehicles shall be provided access to the construction area at all times. Fire hydrants on or adjacent to the work shall be kept accessible to fire-fighting equipment at all times. The CONTRACTOR shall provide adequate signs, barricades, red lights, flagmen and watchmen and take all necessary precautions for the protection of the work and the safety of the public as specified and in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways (US Department of Transportation, Federal Highway Administration, current edition).

SECTION 1.10 MATERIAL AND EQUIPMENT

All materials, unless explicitly specified otherwise, shall be new and unused.

All materials used shall be suitable for the application where installed and meet the requirements of the Division of Water of the Kentucky Natural Resources and Environmental Protection Cabinet.

SECTION 1.11 STORAGE AND PROTECTION

The CONTRACTOR shall provide a suitable storage area at no cost to the OWNER, and the CONTRACTOR shall be responsible for the protection of the stored materials until they are incorporated into the work.

SECTION 1.12 FINAL CLEANING

Final cleaning and dressing shall consist of removing all sediment and debris in the project area and shaping to the original ground lines or to the lines, grades, contours, or cross sections indicated on the Drawings. It shall also include filling with suitable materials all holes and depressions resulting from removal of structures or grubbing or other operations and shaping to conform to the surrounding ground. Where the CONTRACTOR's operations have resulted in filling existing ditches or clogging existing culverts, the CONTRACTOR shall reditch or clean culverts so as to return them to as good as or better condition than existed before the work began.

Before final acceptance of the work, the CONTRACTOR shall satisfactorily clean all areas within the limits of his operations including the street surfaces, walks, gutters, fences, lawns, private property and structures, leaving them in as neat, clean and usable conditions as originally found. He shall remove all structures from the site. He shall also remove organic matter and materials containing organic matter from all areas used by him during construction. All pipes or inlets shall be cleared of all scaffolding, sedimentation, debris, rubbish and dirt.

SECTION 1.13 REPAIR AND RESTORATION

All ground or paved surfaces or existing improvements that have been damaged or destroyed by the CONTRACTOR's operations shall be restored in accordance with these Specifications. Where bituminous or concrete materials and work are required, the CONTRACTOR shall conform also to the details on the Drawings and to requirements of the appropriate sections of KY DOT.

The repair of driveways, sidewalks, or other existing improvements shall return them to a condition as good as or better than existed prior to the beginning of the CONTRACTOR's operations.

All signs and mailboxes that will be affected by the CONTRACTOR's operations, whether they are shown on the Drawings or not, shall be removed and reinstalled by the CONTRACTOR. This work shall include the necessary removal and subsequent construction of the sign or mailbox foundation and of any other materials necessary to complete the reinstallation.

All surplus material, rock, trees, shrubs, concrete, asphalt, pipe, crushed stone, etc., that are not to be used in the CONTRACTOR's restoration operations shall be removed from the site and disposed of in an acceptable manner.

DIVISION 2 - SITEWORK

SECTION 2.1 SITE CLEARING

The area involved with new construction shall be cleared of all weeds, brush, briers, bushes, trees, stumps, and other protruding obstructions not designated to remain. In addition, all bushes, trees, roots, and stumps within the areas where either excavation or embankment is shown shall be grubbed except undisturbed stumps, roots, and nonperishable solid objects which will be a minimum of three feet below subgrade or slope of embankments. Stumps and nonperishable solid objects to be left under embankment shall not extend more than 6 inches above the ground line.

Work shall not be performed outside said work limits and the existing vegetation outside these limits shall not be disturbed unless authorized by the ENGINEER.

All materials resulting from clearing and grubbing shall be completely disposed of by the CONTRACTOR. Any burning of perishable material shall be in conformity with regulations issued by the responsible state agency and in conformity with regulations established by local government agencies.

SECTION 2.2 EARTHWORK

SECTION 2.2.1 GENERAL

Earthwork shall include removing and satisfactorily disposing of materials or filling and compacting of materials, within the limits of the work, required for construction in accordance with these Specifications and in conformity with the elevations, typical sections, cross sections, and finish contour lines shown on the Drawings.

SECTION 2.2.2 PRODUCTS

All suitable material taken from excavation shall be used in the formation of embankment, subgrade, and for backfilling as indicated on the Drawings or as directed by the ENGINEER.

When the volume of excavation exceeds that required to construct embankments to the grades indicated on the Drawings, the excess shall be wasted off the project site at locations acquired by the CONTRACTOR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be supplied from borrow sources at locations to be acquired by the CONTRACTOR subject to the approval of the ENGINEER.

Excavation and embankment quantities shown on the Drawings are for information only. The Contractor shall make his own determination of the quantity involved when preparing his bid. The ENGINEER makes no warranty, either expressed or implied, regarding the accuracy of those quantities shown.

SECTION 2.2.3 EXECUTION

SECTION 2.2.3.1 EXCAVATION

Excavation shall extend from the original ground line to the lines and grades indicated on the Drawings. During the process of excavation, the grade shall be maintained so that it will be well drained at all times. When directed by the ENGINEER, temporary drainage ditches shall be installed to intercept or direct surface water which may affect work.

Rock, shale, hardpan, loose rock, boulders, or other materials unsatisfactory for subgrade shall be excavated to a minimum of 12 inches below designated elevation. Mulch, peat, matted roots or other yielding materials unsatisfactory for subgrade foundation shall be removed to provide a satisfactory foundation. The portion so excavated shall be refilled with suitable material in accordance with these Specifications.

Stones or rock fragments larger than 4 inches in their greatest dimension will not be permitted in the top 12 inches of the subgrade.

All loose or protruding rocks in the backslopes shall be removed to the lines or finish grades of the slopes. All cut and fill slopes shall be uniformly dressed to the slope, cross section and alignment indicated on the Drawings.

SECTION 2.2.3.2 EMBANKMENT

Where embankments are to be placed on natural slopes steeper than 15 percent, horizontal benches with a minimum width of 6 feet shall be constructed. These benches shall be refilled and compacted in accordance with these Specifications.

All areas where embankments are to be constructed shall be cleared and grubbed and debris subject to termite attack, rot, or corrosion shall be removed. Existing soils in these areas shall be reasonably dry and shall be precompacted by making a minimum of three overlapping runs, one being in the cross direction, with a vibrating roller or other equipment approved by the ENGINEER.

Embankment material shall be free of all organic matter, debris and refuse and shall be of uniform character. Embankment material shall contain no stones or rock fragments larger than 4 inches in the top 12 inches of the embankment.

Embankments of soil, soft shale, or gravel shall be placed in uniform horizontal layers not more than 6 inches in uncompacted depth. Each layer shall be compacted fully and uniformly to a minimum density or a percentage of the Standard Proctor Maximum as shown below (ASTM D-698 or AASHTO Standard Method T-99):

1. Under and within 10 feet of structures: 100%
2. Under streets and parking areas: 95%
3. Other embankment areas: 85%

Soils in embankments where 100% of Standard Proctor Maximum is required shall have a moisture content within ±2% of optimum moisture when compacted. Soils in embankment where 95% of Standard Proctor is required shall have a moisture content within ± 4% of optimum when compacted.

Embankment material shall be allowed to air dry to the proper moisture as each layer is placed, if necessary, prior to compaction.

No embankment material shall be placed, spread, or rolled when it is frozen or thawing, or during excessively wet weather conditions. When work is interrupted by excessively wet weather, embankment operations shall not resume until the ENGINEER indicates that the moisture content and density of previously placed embankment are as specified.

SECTION 2.2.3.3 SUBGRADE

Preparation of the subgrade shall include compacting to the required density and shaping to conform to the required lines, grades, or cross sections. Subgrade shall be completed to within ± 0.1 foot of the elevations or grades indicated on the Drawings, except for street subgrade. Street subgrade shall conform to Sections 208.02 and 208.03 of KY DOT.

SECTION 2.3 EXCAVATING AND BACKFILLING FOR UTILITIES

SECTION 2.3.1 EXCAVATING

Excavating includes removing and disposing of all materials necessary to perform the work shown on the Drawings or as set out in these Specifications. It includes trenching to the alignment and depth as shown on the Drawings or as directed by the ENGINEER.

All suitable material taken from excavation shall be used for backfilling as indicated on the Drawings or as directed by the ENGINEER.

When the volume of excavation exceeds that required for backfill, the excess shall be wasted off the project site at locations acquired by the CONTRACTOR. When the volume of excavation is not sufficient for backfill, the deficiency shall be supplied from borrow sources at locations to be acquired by the CONTRACTOR subject to the approval of the ENGINEER.

Excavation shall extend from the original ground line to the lines and grades indicated on the Drawings. During the process of excavation, the grade shall be maintained so that it will be well drained at all times. When directed by the ENGINEER, temporary drainage ditches shall be installed to intercept or direct surface water which may effect work.

Material removed in excavation is to be unclassified. The following definitions are provided in order to determine the required dimensions of the trench (the dimensions are different for earth and rock cuts).

Earth excavation includes all clay, silt, loam, sand, gravel, slate, hard pan, river rock, stream beds, pavement rocks, and boulders less than 1/3 cubic yard in volume.

Rock excavation includes solid rock, boulders (greater than 1/3 cubic yard in volume), large stone, and concrete or masonry structures, or any other material which in the opinion of the ENGINEER shall require drilling and blasting.

SECTION 2.3.1.1 TRENCHES

Trenches shall be of such width and depth to provide adequate room for the construction or installation of the pipe to the lines, grades, and dimensions called for on the Drawings. The minimum width of the trench shall be as shown on the Drawings. The trench width may vary at the ground surface depending upon the depth and characteristics of the excavated material. Excavate the trench a minimum of six (6) inches below the plan grade. Take all precautions such as sheeting and bracing to provide a safe working environment. When blasting is necessary, transport, store, handle, and use all explosives in compliance with all applicable local, state and federal regulations.

Trenches are to be dug only so far in advance of pipe laying as is practical and shall be braced and drained where necessary to insure the safety and efficiency of the workmen. No extra payment will be made for the placing of bracing and draining of trenches. No trenches shall be opened up and allowed to remain open without construction work immediately following. Trenches shall not remain open overnight or at any time the CONTRACTOR is not on the job site.

Pipe shall not be strung out in advance of actual construction any further than can be laid during one working day.

SECTION 2.3.2 BACKFILLING

This section includes filling of excavated trenches and spaces around the pipe and structures to the original ground elevations, unless otherwise shown on the Drawings.

Backfilling of excavated trenches in an open cut shall commence as soon as possible after the pipe is laid and the jointing and alignment are approved, but not until authorized by the ENGINEER.

The following materials shall be used to backfill the trenches in accordance with and in the manner indicated by the requirements specified herein.

SECTION 2.3.2.1 OUTSIDE PAVEMENT

Backfill in trenches outside the limits of existing or proposed paved surfaces shall be made with materials as specified as follow:

The materials which are to be used from the trench foundation up to a plane one foot above the exterior top of the pipe shall contain sand, #10 coarse aggregate or an approved selected granular fine soil. The particle size in this selected fill shall not be in excess of 3/4 inch. The backfill materials used between the plane one foot above the top of the pipe and one foot below the ground surface may include rock fragments taken from the excavation.

The backfill shall consist of unfrozen materials free from rocks, concrete pieces, or clay lumps more than one cubic foot in volume, roots, stumps, tin cans, rubbish, and other similar articles whose presence in the backfill could cause settlement. In backfill containing rock, no rock fragment shall be larger than one cubic foot in size and all rock fragments shall be mixed with sufficient earth materials to completely eliminate all voids, subject to the approval of the ENGINEER. The amount of rock in the backfill shall not exceed 33% of the total backfill. The top one foot of backfill shall be free from rock fragments. Rock fragments and surplus earth materials not used in the backfill shall be removed from the site of work at no expense to the OWNER.

SECTION 2.3.2.2 UNDER PAVEMENT

SECTION 2.3.2.2.1 COUNTY MAINTAINED ROADWAYS

Backfill in trenches within the limits of existing or proposed paved surfaces or shoulders, and where defined in the Drawings or authorized by the ENGINEER, shall be made with stone material placed as shown on the Drawings. The stone shall meet the requirements of KY DOT Section 805 for Dense Graded Aggregate.

SECTION 2.3.2.2.2 STATE MAINTAINED ROADWAYS

Backfill in trenches within the limits of existing or proposed paved surfaces or shoulders in State Roadways, and where defined in the Drawings or authorized by the ENGINEER, shall be made with flowable fill as shown on the Drawings, unless approval of stone is granted by the ENGINEER. The backfill shall meet the requirements of KY DOT Section 601 for Flowable Fill.

SECTION 2.3.2.3 CONSERVATION OF ACCEPTABLE BACKFILL MATERIAL

The CONTRACTOR shall conserve all acceptable materials from the trench excavation for backfilling the trenches under this contract. In the event there is not enough acceptable materials to backfill the trenches, the CONTRACTOR shall furnish additional acceptable materials as necessary to completely backfill said trenches.

SECTION 2.3.2.4 BACKFILL FOR UNDERGROUND STRUCTURES

Backfill for underground structures shall consist of materials free from pieces of rock, concrete or clay lumps more than one cubic foot in volume, roots, stumps, tin cans, rubbish, frozen materials, and other similar articles whose presence in the backfill could cause settlement.

SECTION 2.3.2.5 BACKFILL AROUND IRON PIPES

Well compacted clay, sand and gravel or other material non-injurious to iron pipe shall be used for backfilling within 24 inches of any iron pipe. Cinders, rubbish or any other materials which would be injurious to iron pipe shall not be used in the backfill.

SECTION 2.3.2.6 EXECUTION

The specified backfill material shall be deposited in the trench uniformly under and on both sides of the pipe for the full width of the trench up to one-half the diameter of the pipe to provide uniform support.

Backfill materials for underground structures shall be placed in uniform layers not exceeding 12 inches for the full depth of the structure.

The specified backfill material shall be carefully deposited in uniform layers, a maximum of 6 inches thick, from the top of the trench foundation up to a plane one foot above the exterior top of the pipe. Each layer shall be leveled and evenly distributed on both sides of the pipe so as not to disturb, displace or damage the pipe before the next succeeding layer is placed. The remainder of the trench up to the ground surface shall be backfilled with materials which may be taken from the excavation or with stone material where required and placed in uniform layers, a maximum of 8 inches thick.

If material for backfilling is dumped, bulldozed, or dropped from a height exceeding 5 feet above the previously placed backfill, its fall shall be broken by timber grillage or other means acceptable to the ENGINEER to prevent possible damage to the pipe.

SECTION 2.4 ROADWAY PAVING

Roadway paving shall consist of one or more courses of bituminous mixture constructed on the prepared foundation in accordance with these Specifications and KY DOT, Section 208, Section 303, and Section 400.

SECTION 2.4.1 RESHAPING AND COMPACTING

The Contractor shall reshape and compact in accordance with Section 208.05 of KY DOT.

SECTION 2.4.2 FINAL ROADWAY DRESSING

Final dressing shall be performed by hand work and machines to produce a uniform satisfactory finish to all parts of the roadway (including shoulders and ditches) and embankments. The roadbed, shoulders, ditches and slopes shall be shaped within reasonably close conformity to the specified lines, grades and cross sections. Rock cuts shall be scaled of all loose fragments and left in a neat, safe, and workmanlike condition.

The project will not be accepted and final payment will not be made until final dressing has been satisfactorily completed.

SECTION 2.5 PAVEMENT REPAIR

All paved surfaces shall be restored to a condition as good as or better than existed prior to the beginning of the work. The materials and dimensions shall be the same as the original paving unless otherwise indicated on the Drawings.

SECTION 2.5.1 ASPHALT PAVEMENT

Existing asphalt pavement shall be restored with DGA base, bituminous base, and bituminous surface as required herein and as indicated on the Drawings and in accordance with appropriate State Highway and County Roadway Standards.

When surfacing cannot be immediately placed, the base course shall be of such compacted depth as to be level with adjacent undisturbed pavement. The roadway shall be open to traffic and maintained by the CONTRACTOR, including necessary additions of crushed stone, wedging of existing pavement, filling of potholes, dust control, etc., until the final surface course is placed.

Resurfacing or patching shall include a leveling course of asphaltic or bituminous concrete to eliminate irregularities in existing pavement. The final asphaltic or bituminous concrete course shall have a minimum compacted thickness of 4 inches in state highway right-of-way and 3 inches in other roadways.

SECTION 2.5.2 CONCRETE PAVEMENT

Existing concrete pavement shall be restored in accordance with the Drawings or in accordance with the appropriate State Highway and County Roadway Standards. Concrete pavement shall be a minimum of six inches thick and shall be reinforced with the same material as the existing pavement or with 6-inch by 6-inch No. 4 wire mesh, whichever is greater. When cutting of the existing pavement is required, the CONTRACTOR shall make a smooth and even joint. The repaired section shall be connected to the pavement by approved methods for load transfer.

SECTION 2.6 WATER DISTRIBUTION SYSTEMS

SECTION 2.6.1 PIPE AND FITTINGS

All pipe for the water lines shall be DR-9 Polyethylene (HDPE) with the same outside diameter as ductile iron pipe unless otherwise indicated on the Drawings.

SECTION 2.6.1.1 POLETHYLENE (PE) PIPE

SECTION 2.6.1.1.1 SCOPE

The intent of this specification is to establish a minimum standard for EHMW-PE high density polyethylene plastic pipe (D.I.P.S. – Ductile Iron Pipe Size) to be used for waterline.

SECTION 2.6.1.1.2 MATERIALS

The pipe and fittings shall be made of EHMW-PE polyethylene plastic material equal or superior to that used to manufacture EHMW-PE (extra-high molecular weight high density polyethylene). The pipe shall be Plexco as manufactured by Chevron Chemical Co. or approved equal.

A. The pipe shall have ductile iron pipe (DIP) equivalent outside dimensions for the nominal sizes indicated.

B. The pipe and fittings shall be pressure rated at 73.4˚F, and have a suggested design hoop stress of 800 psi, and have the same pressure rating as the pipe.

C. The pipe shall have capabilities for being joined by heat fusion in the field.

D. Heat fused pipe joints shall meet or surpass the design pressure rating for the pipe.

E. The minimum design pressure for the pipe shall be as required by the Drawings: 250 psi (DR-9) at 73.4˚F

F. The pipe joints shall be 40/50 feet unless otherwise specified.

G. The pipe lengths, fittings and flanged connections to be joined by butt fusion shall be the same type, grade and class of the polyethylene resin and shall be supplied by the same manufacturer.

H. The pipe and fittings shall meet the following specifications:

The polyethylene base resin shall meet all requirements of ASTM D3350 for type III Grade P34, Category 5 and have a PPI rating of PE 4710 by the Plastic Pipe Institute.

The pipe and fittings produced from this resin shall have a cell classification of PE 445574C under ASTM D-3350 and meet or exceed all the requirements.

I. The stub end flanges shall meet the following specifications:

1) Stub ends shall be molded from same resin as pipe and by the same manufacturer as pipe. The overall length of the stub ends shall be at least 6 1/2" and molded in one place.

2) The words stub end, stub end flange, and flange adapter are used interchangeably to mean a one-piece molded stub end.

3) All stub ends shall have a radius on OD where pipe and flange meet for use with lap joint back up rings. All stub ends shall meet same specifications as pipe. All stub ends shall have 90 degree square corner edge on the ID on the flange end so the ID is smooth and free of indentations.

4) Roll-over formed stub ends are not acceptable. Stub ends shall be X-rayed for defects such as voids. X-rays shall be made available for inspection.

For SDR's heavier than 7.3, stub ends shall be machined from plate and shall have a flange thickness of 1.1 x wall; the plate shall be void free, 4 inches thick and from pipe grade resin meeting the same specifications as the pipe. The overall length of the stub end shall not be less than 12 inches depending on the SDR.

Pipe fused to plate stub end shall be from the same manufacturer and lot as the pipe. Any stub end machined from plate shall be X-rayed for defects prior to the addition of pups. X-rays shall be made available for inspection. The fusion bead between pup and stub end shall be removed by machining when cold.

I. The pipe/fitting supplier shall meet the following fusion and inspection specification:

1) A qualified supplier representative shall visually inspect and mark each fusion prior to pipe installation.

2) The supplier shall provide fusion equipment that is in good working order.

3) Heaters shall have suitable quick release, free of contamination, removable and easily replaceable surfaces.

4) The supplier shall provide a qualified Fusion Instructor to train a maximum of two designated fusion operators from the Contractor's work force. Fusions shall only be performed by operators trained and approved by the supplier.

J. Both pipe and fittings shall be manufactured by the same manufacturer and manufactured from identical virgin materials meeting the requirements of ASTM D-1248, Type III, class C, Category 5, Grade P34. It shall have a cell classification per ASTM D-3350. The minimum hydrostatic design basis shall be 1600 psi @ 73.4˚F, and 800 psi @ 140˚F, per ASTM D-2387 and validated in accordance with the latest revision of PPI TR-3. The pipe shall have a tensile strength at yield per ASTM D-638 of a nominal value of 3500 psi. The pipe and fittings material shall have a nominal molecular weight average of 300,000.

K. Mitered fittings shall be fully pressure rated. A 90 degree elbow shall have five (5) segments and a 45 degree elbow shall have three (3) segments.

L. No extrudate welding will be allowed on systems in excess of 15 psi.

M. No fiberglass overwrapping will be allowed.

N. All pipe shall be bundled, loaded with dunnage and strapped in layers to assure safe unloading.

O. Both pipe and resin shall have a PPI 4710 listing.

SECTION 2.6.1.2 SERVICE LINE

SECTION 2.6.1.2.1 COPPER

The line extending from the main line to the meter shall be Type K soft copper tubing meeting the requirements of ASTM B88.

Joints and couplings shall be Quick-Joint compression type.

SECTION 2.6.1.2.2 POLYETHYLENE

The line extending from the meter to the re-connection with the private residential service line shall be 200 psi, ¾" polyethylene tubing.

Polyethylene tubing shall be high density, DR 11, PE 4710 – pressure class 200 psi, in conformance with the requirements of ANSI/AWWA C901 and ASTM D2737 Standard Specification for Polyethylene (PE) Plastic Tubing.

Joint couplings for PE tubing shall be Quick-Joint compression type with solid stainless steel internal stiffeners inside ends of PE tubing.

SECTION 2.6.1.3 FITTINGS

Pipe Fittings

Cast iron or ductile iron fittings shall be used with all types of pipe 3 inches and larger unless otherwise shown on the Drawings. Fittings shall be mechanical joint fittings with body thickness and radii of curvature conforming to AWWA C110 or AWWA C153. Rubber gasket joints shall be in accordance with AWWA C111. Fittings shall be cement mortar lined and asphaltic coated.

GripRing pipe restraints, as manufactured by Romac Industries, Inc., or approved equal, shall be used on all mechanical joint fittings. No extra payment will be made.

HDPE Fittings

HDPE Fittings shall be made from the same resins and material designations, cell classifications, pressure class and dimensions as the HDPE pipe being connected to. Permitted HDPE fittings are as follows:

A. Butt Fusion Fittings - Fittings shall be made from HDPE resin meeting ASTM D 3350 with a minimum cell classification of 445574C. Molded butt fusion fittings shall have a manufacturing standard of ASTM D 3261. Fabricated fittings must have the same pressure rating as the pipe; a DR less than the pipe shall not be used. Fabricated fittings are to be manufactured using a Data Logger to record temperature, fusion pressure, and a graphic representation of the fusion cycle shall be part of the Quality Control records.

B. Flanged and Mechanical Joint Adapters - Flanged and mechanical joint adapters shall be made from materials containing resin that meets ASTM D 3350 with a minimum cell classification of 445574C.

Stainless Steel Insert/Stiffener

All non-fused connections shall require the use of two-piece wedge style stainless steel inserts/stiffeners inside the end of the HDPE pipe. Inserts shall be properly sized and approved by the manufacturer for actual HDPE pipe diameter and wall thickness (DR) being utilized.

SECTION 2.6.1.4 ENCASEMENT PIPE

Encasement pipe, where required, shall be steel pipe of the diameter called for on the Drawings. Minimum wall thickness shall be as follows:

Carrier Pipe Size (Dia. – in.)	**Encasement Pipe Nominal Wall Thickness (in.)**
8 and under	0.188
10 - 12	0.250
14 - 16	0.281
18	0.312
20 - 22	0.344
24	0.375
30	0.469
32	0.500
36	0.532

Carrier pipe within encasement pipe shall be supported by casing shocks equal to APS Model SSI, or approved equal. Spacing and installation shall be as recommended by the manufacturer.

The annular space at the ends of the encasement pipe shall be sealed to prevent the entrance of groundwater, silt, etc., into the casing pipe. The seals shall be “pull-on” type constructed of synthetic rubber with stainless steel banding straps. Seals shall be Model “AC” as manufactured by APS, or approved equal.

SECTION 2.6.1.5 HANDLING PIPE AND ACCESSORIES

Care shall be exercised in loading and unloading pipe to prevent damage to the pipe. The degree of care in handling the pipe and accessories shall meet the recommendations of the pipe manufacturer.

Proper implements, tools, and facilities shall be provided to allow safe and convenient performance of the work. Under no circumstances shall pipe or accessories be dropped into the trench.

Pipe shall not be strung in advance any further than the length capable of being laid per day.

SECTION 2.6.1.6 QUALITY ASSURANCE

Contractor or Subcontractor performing any fusion on the HDPE pipe shall provide evidence and references for satisfactory service in at least 3 projects of similar pipe diameter.

SECTION 2.6.1.7 PIPE INSPECTION PRIOR TO LAYING

All pipe shall be inspected upon arrival. If any portion of a shipment is found to be defective in diameter or thickness or found to have been contaminated with fuel exhaust, the entire shipment shall be removed from the project at the CONTRACTOR's expense.

All pipe shall be inspected just prior to laying. Any defective pipe will be rejected. All such rejected pipe shall be removed from the project immediately and replaced at the expense of the CONTRACTOR.

Usable portions of the rejected pipe may be salvaged upon approval of the ENGINEER. Minimum manufacturer's standards shall be met on all salvaged pipe.

SECTION 2.6.1.8 PIPE TO BE KEPT CLEAN

Care shall be exercised to keep the pipe clear of mud, dirt and debris before and during laying.

No pipe shall be laid in water, and precautions shall be taken to prevent trench water from entering the pipe.

SECTION 2.6.1.9 ALIGNMENT AND GRADE

All pipe shall be laid to the required grade and alignment. Any deviations from the alignment and grade shown on the Drawings shall be as directed by the ENGINEER.

Minimum cover over water mains shall be 42 inches. Holes shall be excavated at the bell and/or coupling locations to prevent load concentration on the bells and/or couplings.

Fittings and valves shall be placed at the locations shown on the Drawings with all joints centered, spigots home, and valve stems plumb.

Water lines shall be laid at least 10 feet horizontally from any existing or proposed sewer line. Should local conditions prevent a lateral separation of 10 feet, a water line may be laid closer than 10 feet to a sewer line if the elevation of the top (crown) of the sewer is at least 2 feet below the bottom (invert) of the water main. Wherever water lines must cross over sewers, the water line shall be laid at such elevation that the top of the sewer is at least 2 feet below the bottom of the water main.

SECTION 2.6.1.10 CUTTING PIPE

Cutting of pipe for the insertion of valve fittings shall be done in a manner recommended by the manufacturer so as to avoid damage to the pipe or coating.

SECTION 2.6.1.11 PERMISSIBLE DEFLECTION

The degree of deflection of a pipe in either the horizontal or vertical planes shall not exceed the recommendations of the manufacturer.

SECTION 2.6.1.12 HIGHWAY/ROAD CROSSINGS

Crossings under state highways shall be open cut. All crossings under paved county roads may be open cut unless otherwise indicated on the Drawings. These crossings shall be made at the locations shown on the Drawings and shall conform to the Drawings. Pavement shall be replaced as specified in Section 2.5 of the Specifications and no extra payment will be made.

A valve/line marker shall be erected at the location of each crossing unless otherwise permitted by the ENGINEER.

SECTION 2.6.1.13 OTHER PIPE JOINTS

In laying and joining other pipes, the recommendations of the manufacturer shall be followed closely. Any applicable provisions in this section shall be followed in laying and jointing other types of pipe and installing bell and spigot fittings to be used with other types of pipe.

SECTION 2.6.1.14 TIE-IN TO EXISTING WATER LINE

Where indicated, tie-ins to the existing water lines shall be made under pressure with a tapping sleeve and tapping valve, unless otherwise noted. After testing and flushing requirements have been met, CONTRACTOR shall remove wet tap such that a straight transition is made from the existing waterline to the proposed waterline. No payment will be made for removal of the wet tap. The straight transition tie-in to the existing waterline (labor and materials) shall be paid under pay item “Tie to Existing Waterline – Dry Tie”.

The tapping sleeve shall be the same or equal to catalog number H-615; the tapping valve shall be the same or equal to catalog number H-667; both as manufactured by the Mueller Company of Decatur, Illinois.

Tapping sleeves shall be of satisfactory working pressure and well supported independently from the pipe during the tapping.

A thrust block shall be used as with any other fitting or appurtenance and shall meet the bearing area requirements shown on the details for that of a 90° bend.

In a dry tie-in to existing waterline situation, the water main may be cut and a tee and gate valve installed.

SECTION 2.6.1.15 PLUGGING DEAD ENDS

Standard plugs shall be inserted into the bells of all dead end fittings. Spigot ends shall be capped. Thrust blocking shall be provided at all dead ends of pipe that are capped or plugged.

SECTION 2.6.1.16 ANCHORAGE OF BENDS, TEES AND PLUGS

All pipe lines, all plugs capped, and bends exceeding 22-1/2º shall be securely anchored by thrust blocking as indicated on the Drawings. In addition, on 4" or larger pipe lines, all tees shall be similarly anchored. Thrust blocking shall be concrete of a mix not leaner than 1 part cement, 2 parts sand, 5 parts stone and a compressive strength not less than 2000 pounds per square inch. Quantities of concrete required for different bends, tees, and valves shall be as indicated on the Drawings. If permitted by the ENGINEER, metal harness rods and pipe clamps of adequate strength to prevent movement may be used instead of concrete blocking.

Thrust blocks shall be placed so that the pipe and fitting joints will be accessible for repair.

SECTION 2.6.1.17 TRACER WIRE

Contractor shall install #10 bare copper tracer wire on all waterlines installed. Cost shall be incidental to the price of the installed waterline.

SECTION 2.6.2 VALVES

Unless otherwise specified, valves shall be designed to operate continuously under a working pressure of not less than 200 pounds per square inch. Valves suitable for other working pressures shall be furnished as indicated on the Drawings. A valve/line marker shall be erected at the location of each valve unless otherwise permitted by the ENGINEER.

SECTION 2.6.2.1 GATE VALVES AND BOXES

Gate valves shall be Mueller Resilient Wedge Gate Valves, or approved equal, tested to 250 psi in both directions and shell tested to 500 psi. The valve shall have mechanical joint ends unless otherwise stated on the Drawings.

Valve boxes shall be cast iron screw-type with lids marked "Water". A concrete collar shall be constructed around the box, as shown on the Drawings.

SECTION 2.6.2.2 FIRE HYDRANTS

Fire hydrants, where indicated on the Drawings, shall be 3-way Mueller Super Centurion fire hydrants or equal with a 4-1/2” valve opening and minimum 30" bury dimension.

SECTION 2.6.2.3 SETTING VALVES, VALVE BOXES, AND FITTINGS

All gate valves and any other valves designated shall be set in cast iron Buffalo type, two-piece screw type valve boxes unless otherwise indicated on the Drawings. Wrench nuts shall be readily accessible through the opening. Valve boxes shall be firmly supported and shall be kept centered and plumb over the wrench nut of the gate valve. The box cover shall be flush with the surface of the finished pavement or any other level designated by the ENGINEER.

Check, altitude, pressure reducing, or air release valves or any other appurtenances required in connection with the mains or their appurtenances shall be installed in accordance with applicable specifications applying to other valve fittings, and subject to any further detailed requirement included on the Drawings.

SECTION 2.6.2.4 VALVE/LINE MARKERS

A fiberglass valve/line marker, Model CUM-375 as manufactured by Carsonite International Corporation, or approved equal, shall be constructed at the locations of all highway crossings and valves unless otherwise permitted by the ENGINEER. No extra payment will be made for the markers or their placement.

SECTION 2.6.2.5 WATER SERVICE SETTING

The CONTRACTOR shall furnish and install service settings as indicated on the Drawings or as directed by the ENGINEER.

Each service setting in 5/8" x 3/4" size shall consist of the following units:

1) One corporation stop with AWWA thread. The minimum size of the stop shall be the same as the meter outlet. The corporation stop shall be tapped into the main line at an approximate angle of 45 degrees to vertical. AWWA standards shall be used for threads.

2) A plastic coated, heavy duty, double stainless steel (Type 304) strap service saddle, JCM Model 406, or approved equal, shall be used on all lines. AWWA standards shall be used for threads.

3) A Ford VVG72-7W-44-33Q-NL KEYXCOM, or equal, Coppersetter for 5/8" x 3/4" meter with double stop.

4) One 5/8" x 3/4" AMR water meter, Neptune T10, Model R900M AMR V4 with 6’ antenna, or approved equal.

5) Meter box, 18 Carson, with AMR hole pre-drilled, or approved equal. Lid shall be plastic with cast iron reader.

6) A sufficient length of 2" PVC pipe for encasement of the service line through road crossings where required by the ENGINEER.

The copper service line from the main to the meter shall be paid for separately.

SECTION 2.6.2.6 RE-CONNECT WATER SERVICE

Contractor shall re-connect all existing private services. Each re-connect shall include all equipment, labor, and materials to locate the existing service line and physically re-connect it to the newly constructed meter vault. Any piping required shall be polyethylene (PE) of the same size as the existing service line with a minimum pressure rating of 200 PSI.

SECTION 2.6.3 TESTING OF WATER DISTRIBUTION SYSTEMS

The Contractor shall fully test all sections of water lines in accordance with the procedures to follow. All labor, materials and equipment used in testing procedures (including water) shall be furnished by the Contractor.

Hydrostatic Test: After water pipe has been laid and backfilled, all newly laid pipe or any valve section thereof shall be subject to a hydrostatic pressure of not less than 200 psi or 1.5 times the anticipated line pressure, whichever is greater. The duration of the pressure tests shall be twenty-four (24) hours. Each valve section of pipe shall be slowly filled with water. While the pipe is being filled and before the application of the specified test pressure, all air shall be expelled from the pipe. Taps may be required at points of highest elevation. These taps are to be tightly plugged after completion of the test. The test pressure shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Engineer. The pump, pump connections, gauges, and all necessary apparatus and labor shall be furnished by the Contractor. The Contractor shall calibrate the gauges in the presence of the Engineer.

A test shall be made only after a part or all of the backfilling has been completed and at least 36 hours after the last concrete thrust block has been cast with high-early-strength cement or at least seven (7) days after the last thrust block has been cast using standard cement.

Any cracked or defective pipes, fittings, or valves discovered during hydrostatic pressure tests shall be removed and replaced with sound material and the test repeated until satisfactory to the Engineer. No payment shall be made for the removal and replacement of defective pipes and appurtenances.

Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure. Leakage shall not be measured by a drop in pressure in a test section over a period of time. See Table 1 below:

Table 1. Allowable leakage per 1000 ft of pipeline* - gph†

NOMINAL PIPE DIAMETER-in.

Avg. Test Pressure psi	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54	60	64
450	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82	4.78	5.73	6.69	7.64	8.60	9.56	10.19
400	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60	4.50	5.41	6.31	7.21	8.11	9.01	9.61
350	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81	3.37	4.21	5.06	5.90	6.74	7.58	8.43	8.99
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.12	3.90	4.68	5.46	6.24	7.02	7.80	8.32
275	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.99	3.73	4.48	5.23	5.98	6.72	7.47	7.97
250	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85	3.56	4.27	4.99	5.70	6.41	7.12	7.60
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.70	3.38	4.05	4.73	5.41	6.03	6.76	7.21
200	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12	2.55	3.19	3.82	4.46	5.09	5.73	6.37	6.80
175	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	1.98	2.38	2.98	3.58	4.17	4.77	5.36	5.96	6.36
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21	2.76	3.31	3.86	4.41	4.97	5.52	5.88
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01	2.52	3.02	3.53	4.03	4.53	5.04	5.37
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80	2.25	2.70	3.15	3.60	4.05	4.50	4.80

*If the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size.

† Calculated on the basis of Eq.1.

Allowable leakage. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

In inch-pound units,

$$L = \frac{SD\sqrt{P}}{133{,}200}$$

Where:

L = allowable leakage, in gallons per hour
S = length of pipe tested, in feet
D = nominal diameter of the pipe, in inches
P = average test pressure during the leakage test, in pounds per square inch (gauge)

SECTION 2.6.4 DISINFECTION OF WATER DISTRIBUTION SYSTEMS

Before being placed into general use, all pressure water piping and pipelines shall be flushed thoroughly, disinfected with chlorine and flushed again, in accordance with sound engineering practice. The method of disinfection shall consist of introducing a solution of hypochlorite or chlorine and water in controlled quantities into the piping system in such proportion that the chlorine water mixture entering the pipes shall contain at least 50 ppm of chlorine. Outlets in the piping shall be opened to insure complete distribution of the chlorine water mixture throughout the system to be disinfected. The mixture shall remain in the system long enough to destroy all non-spore forming bacteria. The period shall be at least 24 hours, and shall be for a longer length of time should the ENGINEER so direct. The chlorine residual at the end of the required retention time shall be at least 25 ppm at pipe extremities. If the residual is less than 25 ppm, the procedure shall be repeated until a 25 ppm residual after retention is obtained at all pipe extremities. For the purpose of determining compliance with this regulation, samples may be considered only if they have been analyzed by a laboratory certified by the Kentucky National Resources and Environmental Protection Cabinet, Division of Water.

Upon completion of the distribution process, the chlorine water mixture shall be flushed thoroughly from the system and samples for bacteriological examination shall be taken from the system to assure that complete disinfection has been accomplished. Arrangements for bacteriological sampling and examination shall be made by the CONTRACTOR with an approved laboratory. Water samples may be taken at such locations as representatives of the County Health Department shall select, and no mains shall be placed into service until the bacteriological quality and the approval Health Department is given. All expenses for testing, disinfecting, and flushing prior to approval and acceptance of the work shall be borne by the CONTRACTOR.

SECTION 2.7 SEEDING

All established grassed areas shall be restored by seeding. The disturbed areas shall be sown at a rate of three (3) pounds per 1000 square feet with an approved grade of seed in a mixture as follows:

50% Kentucky Blue Grass (Poa pratensis)
35% Creeping Red Fescue (Festuca rubra)
10% Red Top (Agrostis alba)
5% White Dutch Clover (Trifolium repens)

Seed shall be well raked or boarded into the soil.

SECTION 2.7.1 SURFACE PREPARATION FOR SEEDING

The seed bed shall be loosened to a depth of three (3) inches and shaped to a smooth even surface and shall be graded to an elevation so the seeded, or in place, elevation of the sod shall be flush with adjacent turfed areas, pavements, curbs or other structures except when directed otherwise by the ENGINEER.

Fertilizer and limestone shall be applied uniformly at the rates specified and shall be harrowed, raked, or otherwise incorporated into the soil. The bed, when dry, shall be moistened to the loosened depth.

SECTION 2.7.2 FERTILIZER AND LIME

Agricultural limestone shall be applied at the rate of 100 pounds per 1000 square feet and 10-10-10 agricultural fertilizer, or equivalent, shall applied at the rate of 50 pounds per 1000 square feet.

SECTION 2.7.3 MULCHING MATERIAL

Unless otherwise permitted by the ENGINEER, vegetable materials for mulching shall be wheat, oat, barley, or rye straw only. All material shall be reasonably free from weeds, seeds, foreign materials, and other grasses and chaff, and shall contain no Johnson grass. The straw shall be reasonably bright in color and shall not be musty, moldy, caked, or of otherwise low quality. It shall be dry on delivery.

Unless otherwise specified, the bituminous material to be used for "tying down" straw mulch shall be a slow setting emulsified asphalt. It shall be non-toxic to plants.

Mulching material shall be uniformly applied to approximately 2 inches loose depth (approximately 2 tons per acre). Bituminous material for tying down the straw shall be applied at the rate of 250 gallons per acre.

SECTION 2.7.4 MULCH AND NETTING

Mulch and netting shall be used adjacent to (within 3 feet of) pavements and other areas designated by the ENGINEER. Mulch material used under netting may be either plain or bituminous treated, unless otherwise directed, and shall be uniformly applied to approximately 2 inches loose depth (approximately 2 tons per acre).

SECTION 2.7.5 GUARANTEE

An inspection to determine the acceptability of seeding will be made by an authorized representative of the OWNER no less than 3 months but not more than 6 months after completion of the entire project, except that the ENGINEER may delay the inspection when conditions are such that the acceptability of the seeding cannot be determined at the end of the 6 month period. The CONTRACTOR shall guarantee, at the time of this inspection, a minimum of 150 live seedlings representative of the specified seed mixture per square foot on at least 90 percent of each seeded area, with no vacant areas larger than 250 square feet each. This guarantee shall apply to all permanent seeding performed in conjunction with the project, regardless of the type protection used or the season in which the seeding was performed.

When the seeding does not meet the guarantee requirements at the time of the inspection, the CONTRACTOR will be advised of the amount and location of additional work deemed necessary. Additional work required may include preparation of a new seedbed,

refertilizing, reseeding, remulching, or any erosion control items that were originally required. The CONTRACTOR shall perform all additional work as soon as favorable working conditions occur after being advised of the additional work required. The additional work and materials required to fulfill the guarantee requirements will not be paid for, except as hereinafter provided for unavoidable damage.

DIVISION 3 - CONCRETE

SECTION 3.1.1 GENERAL

This section shall include all concrete work except thrust blocking as shown on the Drawings or called for in these Specifications and shall include the fabrication and furnishing of all steel bars and wire mesh of the size, shape and length indicated. Concrete shall be Class "A".

SECTION 3.1.2 PRODUCTS

Cement: Portland Cement shall conform to the requirements of ASTM C150 (KY DOT 801) for Type I, or Type III where high-early-strength is required.

Fine Aggregates: Fine aggregates for use in Portland cement concrete shall meet the requirements of KY DOT Section 804.03.

Coarse Aggregates: Coarse aggregates for portland cement concrete shall meet the requirements of Sections 805 of KY DOT.

Water: Water used in portland cement concrete shall be clean and free from injurious oils, organic materials, alkalies, or other deleterious substances, and shall conform to KY DOT Section 803.

Reinforcing Steel: Reinforcing steel shall meet the requirements of Section 602 of KY DOT.

SECTION 3.1.3 EXECUTION

Proportioning, Mixing and Construction Methods: All concrete placed on this project shall be in accordance with KY DOT Section 601 for Class "A" Air Entrained Concrete.

N O T I C E

DEPARTMENT OF THE ARMY CORPS OF ENGINEERS
KENTUCKY DIVISION OF WATER

NATIONWIDE PERMIT AUTHORIZATION AND
GENERAL WATER QUALITY CERTIFICATION

PROJECT: US 119 Improvements from Pineville to Harlan Road
Bell County, KY
KYTC Item Nos. 11-189 and 11-8701

The Section 404 and 401 activities for this project have been previously permitted under the authority of the Department of the Army Nationwide Permit No. 14 "Linear Transportation Projects" and by a Kentucky Division of Water "General Water Quality Certification". In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Permit in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain **written** permission from the Division of Construction and the Corps of Engineers. A copy of any request to the Corps of Engineers to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.

US 119 Improvements from Pineville to Harlan Road

Bell County, KY

KYTC Item Nos. 11-189 and 11-8701

"Letter of Notification"

SUMMARY OF SECTION 404 IMPACTS

Sta. 60+25 - Remove a portion of an existing concrete culvert pipe, and replace with 93' of new 54" diameter pipe. The stream impact will occur due to channel work only at the outlet end. Approximate linear impact to the perennial stream to is approximately **35 feet**, with an area impact of **0.001** acres. **Nationwide 14.**

Sta. 82+18 - Extend an existing 6 x 6 concrete box culvert by approximately 6 feet, with an additional 54 total feet of work on the inlet and outlet channel. Approximate linear impact to the perennial stream is approximately **60 feet**, with an area impact of **0.003** acres. **Nationwide 14.**

US Army Corps of Engineers®
Nashville District

Nationwide Permit

No. 14, Linear Transportation Projects

Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the US, including wetlands, if the activity meets the following criteria:

a. The discharge does not cause the loss of greater than 1/2-acre of waters of the US;

b. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project;

c. 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;

d. 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 preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate; and

e. This permit cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars. (Sections 10 and 404)

NATIONWIDE PERMIT GENERAL CONDITIONS

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106

consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

(b) A statement that any required mitigation was completed in accordance with the permit conditions; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) If 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin

under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory

mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher
Governor

Capital Plaza Tower
500 Mero Street, 5th Floor
Frankfort, Kentucky 40601
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Teresa J. Hill
Secretary

General Certification--Nationwide Permit # 14
Linear Transportation Projects

This General Certification is effective March 19, 2007, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

Agricultural operations, as defined by KRS 224.71-100(1) conducting activities pursuant to KRS 224.71-100 (3), (4), (5), (6), or (10) are deemed to have certification if they are implementing an Agriculture Water Quality Plan pursuant to KRS 224.71-145.

For all other operations, the Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 5, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 14, namely Linear Transportation Projects, provided that the following conditions are met:

1. This general certification shall not apply to nationwide permits issued for individual crossings that are part of a larger road segment project where the cumulative, unmitigated wetland impacts within a 14-HUC total one (1) acre or more.

2. The individual stream crossing will impact less than 300 linear feet of intermittent or perennial streams, unless excluded by condition # 3. Impacts to ephemeral streams are not limited under this general certification.

3. This general certification shall not apply to nationwide permits issued for individual crossings which meet condition # 2 but that are part of a larger road segment project where the cumulative, unmitigated intermittent and perennial stream impacts within a 14-HUC exceed 500 linear feet.

4. The activity will not occur within waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Waters, Cold Water Aquatic Habitat, or Exceptional Waters.

General Certification--Nationwide Permit #14
Linear Transportation Crossings
Page Two

5. Stream impacts covered under this nationwide permit 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.

6. Projects that do not meet the conditions of this general certification require an individual Section 401 water quality certification.

7. Activities qualifying for coverage under this general water quality certification are subject to the following conditions:

   - Stream crossings shall be constructed in such a manner that does not impede the movement of aquatic organisms.

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

   - In areas not riprapped or otherwise stabilized, revegetation of stream banks and riparian zones shall occur concurrently with project progression. At a minimum, revegetation will approximate pre-disturbance conditions.

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

   - 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.

   - 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.

   - 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.

General Certification--Nationwide Permit #14
Linear Transportation Crossings
Page Three

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

- 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.

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

This general certification will expire on March 19, 2012, or sooner if the USACE makes significant changes to this nationwide permit.

Nichols, Barry (KYTC)

From: Phil_DeGarmo@fws.gov
Sent: Thursday, October 13, 2011 3:08 PM
To: Waldner, David (KYTC)
Cc: Nichols, Barry (KYTC); Harmon, Dave (KYTC); Vinegar, Tony (KYTC)
Subject: KYTC 11-8635; FWS response

The U.S. Fish and Wildlife Service (Service) received your coordination letter on September 19, 2011, analyzing the potential adverse effects of the subject project on the federally listed Indiana bat. KYTC choose to assume presence for the species in lieu of conducting a presence/absence mist net survey. Habitat assessments conducted by KYTC determined that approximately 0.14 acres of Indiana bat summer roosting habitat would be impacted by the proposed project. Further, it was concluded that no winter habitat for the Indiana bat would be directly or indirectly effected by the project. We agree that implementation of seasonal clearing between the dates of October 15 -March 31 would avoid direct effects to potential summer roosting Indiana bats. We have considered potential indirect effects and do not believe, as the project is currently proposed, that the proposed project would have significant indirect effects resulting from the removal of the approximate 0.14 acres of forested habitat. This determination was based on occurrence records available to us, review of aerial photos displaying sufficient summer roosting habitat within the vicinity of the project, and the remaining habitat looks to be multiple age forested stands that are in blocks with sufficient connectivity along the riparian corridor.

Per our review of the information, the Service agrees with KYTC's effects analysis for the federally listed Indiana bat; therefore, we concur that the proposed project is "not likely to adversely affect" the Indiana bat. Please ensure that the minimization measures associated with the Indiana bat seasonal tree clearing restrictions are fully implemented. In view of this, we believe that the requirements of the Endangered Species Act have been fulfilled. Should the project be modified and/or KYTC can no longer be able to commit to the seasonal clearing dates, KYTC should contact our office for further reviews to determine if the project would adversely affect Indiana bats. Please retain a copy of this email as the Service's official response to your request.

Sincerely,

Phil DeGarmo
USFWS- Frankfort, KY Field Office
330 W. Broadway, Rm 265
Frankfort, KY 40601

502-695-0468 ext. 110 (office)
502-229-8830 (cell)
502-695-1024 (fax)
Phil_DeGarmo@fws.gov

Kentucky Transportation Cabinet

Highway District 11

And

_____(2), Construction

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

Groundwater protection plan

For Highway Construction Activities

For

US 119 TWLTL MP 0 – MP 1
US 119 Page School Turn Lanes

Project: PCN 11-189.00 & 11-8701.00

Project information

Note – (1) = Design (2) = Construction (3) = Contractor

1. Owner – Kentucky Transportation Cabinet, District 11
2. Resident Engineer: (2)
3. Contractor name: (2)
   Address: (2)

   Phone number: (2)
   Contact: (2)
   Contractor's agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route (Address) US 119 Pineville, KY 40977-9998
6. Latitude/Longitude (project mid-point) dd/mm/ss, dd/mm/ss 36°43'50" / 83°39'48"
7. County (project mid-point) Bell
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

A. Site description:

1. Nature of Construction Activity (from letting project description)

Grade, Drain, and Surface

2. Order of major soil disturbing activities (2) and (3)

3. Projected volume of material to be moved 9,686 Cubic Yards of Embankment in Place, 10,988 Cubic Yards of Roadway Excavation

4. Estimate of total project area (acres) Approximately 40 Acres

5. Estimate of area to be disturbed (acres) Clearing & Grubbing Approximately 20 Acres

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. Pineville Section Engineer – Robert Perkins

7. Data describing existing soil condition Mostly Wooded Area for soil cover containing predominately shale and sandstones in the upper layers. (2)

8. Data describing existing discharge water quality (if any) Existing Streams are not of high quality (2)

9. Receiving water name Cumberland River

10. TMDLs and Pollutants of Concern in Receiving Waters: Sediment

11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.

12. Potential sources of pollutants:

The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

B. Sediment and Erosion Control Measures:

1. Plans for highway construction projects will include erosion control sheets that depict Disturbed Drainage Areas (DDAs) and related information. These plan sheets will show the existing project conditions with areas delineated by DDA within the right of way limits, the discharge points and the areas that drain to each discharge point. Project managers and designers will analyze the DDAs and identify Best Management Practices (BMPs) that are site specific. The balance of the BMPs for the project will be listed in the bid documents for selection and use by the contractor on the project with approval by the resident engineer.

   Projects that do not have DDAs annotated on the erosion control sheets will employ the same concepts for development and managing BMP plans.

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as “Do Not Disturb” until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP’s shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. <u>All DDA’s will have adequate BMP’s in place before being disturbed.</u>

3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:

   - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.
   - At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover

or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.

- Clearing and Grubbing – The following BMP's will be considered and used where appropriate.
  - Leaving areas undisturbed when possible.
  - Silt basins to provide silt volume for large areas.
  - Silt Traps Type A for small areas.
  - Silt Traps Type C in front of existing and drop inlets which are to be saved
  - Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
  - Brush and/or other barriers to slow and/or divert runoff.
  - Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
  - Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
  - Non-standard or innovative methods.
- Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
  - Silt Traps Type B in ditches and/or drainways as they are completed
  - Silt Traps Type C in front of pipes after they are placed
  - Channel Lining
  - Erosion Control Blanket
  - Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
  - Non-standard or innovative methods
- Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
  - Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
  - Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
  - Additional Channel Lining and/or Erosion Control Blanket.
  - Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
  - Special BMP's such as Karst Policy
- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:

- Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
- Permanent Seeding and Protection
- Placing Sod
- Planting trees and/or shrubs where they are included in the project

➢ BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are: Temporary Seeding and Protection and Channel Lining Class II and Channel Lining Class III

C. Other Control Measures

1. No solid materials, including building materials, shall be discharged to waters of the commonwealth, except as authorized by a Section 404 permit.

2. Waste Materials

All waste materials that may leach pollutants (paint and paint containers, caulk tubes, oil/grease containers, liquids of any kind, soluble materials, etc.) will be collected and stored in appropriate covered waste containers. Waste containers shall be removed from the project site on a sufficiently frequent basis as to not allow wastes to become a source of pollution. All personnel will be instructed regarding the correct procedure for waste disposal. Wastes will be disposed in accordance with appropriate regulations. Notices stating these practices will be posted in the office.

3. Hazardous Waste

All hazardous waste materials will be managed and disposed of in the manner specified by local or state regulation. The contractor shall notify the Resident Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

4. Spill Prevention

The following material management practices will be used to reduce the risk of spills or other exposure of materials and substances to the weather and/or runoff.

- **Good Housekeeping:**

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure
- Products will be kept in their original containers with the original manufacturer's label
- Substances will not be mixed with one another unless recommended by the manufacturer
- Whenever possible, all of the product will be used up before disposing of the container
- Manufacturers' recommendations for proper use and disposal will be followed
- The site contractor will inspect daily to ensure proper use and disposal of materials onsite

- **Hazardous Products:**

These practices will be used to reduce the risks associated with any and all hazardous materials.

- Products will be kept in original containers unless they are not resealable
- Original labels and material safety data sheets (MSDS) will be reviewed and retained
- Contractor will follow procedures recommended by the manufacturer when handling hazardous materials
- If surplus product must be disposed of, manufacturers' or state/local recommended methods for proper disposal will be followed

The following product-specific practices will be followed onsite:

- **Petroleum Products:**

Vehicles and equipment that are fueled and maintained on site will be monitored for leaks, and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products onsite will be stored in tightly sealed containers, which are clearly labeled and will be protected from exposure to weather.

The contractor shall prepare an Oil Pollution Spill Prevention Control and Countermeasure plan when the project that involves the storage of petroleum products in 55 gallon or larger containers with a total combined storage capacity of 1,320 gallons. This is a requirement of 40 CFR 112.

This project (will / will not) (3) have over 1,320 gallons of petroleum products with a total capacity, sum of all containers 55 gallon capacity and larger.

- **Fertilizers:**

Fertilizers will be applied at rates prescribed by the contract, standard specifications or as directed by the resident engineer. Once applied, fertilizer will be covered with mulch or blankets or worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

- **Paints:**

All containers will be tightly sealed and stored indoors or under roof when not being used. Excess paint or paint wash water will not be discharged to the drainage or storm sewer system but will be properly disposed of according to manufacturers' instructions or state and local regulations.

- **Concrete Truck Washout:**

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a shallow earthen wash basin will be excavated away from ditches to receive the wash water

- **Spill Control Practices**

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup**:**

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as

appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.

- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contract with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

D. Other State and Local Plans

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. Not Applicable.

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. Not Applicable

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 successfully completed the KEPSC-RI course as required by Section 213.02.02 of the Standard Specifications for Road and Bridge Construction, current edition.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 70 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

It is expected that non-storm water discharges may occur from the site during the construction period. Examples of non-storm water discharges include:

- Water from water line flushings.
- Water form cleaning concrete trucks and equipment.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater and rain water (from dewatering during excavation).

All non-storm water discharges will be directed to the sediment basin or to a filter fence enclosure in a flat vegetated infiltration area or be filtered via another approved commercial product.

H. Groundwater Protection Plan (3)

This plan serves as the groundwater protection plan as required by 401 KAR 5:037.

- Contractors statement: (3)

The following activities, as enumerated by 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan, will or may be may be conducted as part of this construction project:

_____ 2. (e) land treatment or land disposal of a pollutant;

_____ 2. (f) Storing, …, or related handling of hazardous waste, solid waste or special waste, …, in tanks, drums, or other containers, or in piles, (This does not include wastes managed in a container placed for collection and removal of municipal solid waste for disposal off site);

_____ 2. (g) …. Handling of materials in bulk quantities (equal or greater than 55 gallons or 100 pounds net dry weight transported held in an individual container) that, if released to the environment, would be a pollutant;

_____ 2. (j) Storing or related handling of road oils, dust suppressants, …., at a central location;

_____ 2. (k) Application or related handling of road oils, dust suppressants or deicing materials, (does not include use of chloride-based deicing materials applied to roads or parking lots);

_____ 2. (m) Installation, construction, operation, or abandonment of wells, bore holes, or core holes, (this does not include bore holes for the purpose of explosive demolition);

KYTC BMP Plan for Project PCN 11-189.00 & 11-8701.00

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 11-189.00 & 11-8701.00

Contractor and Resident Engineer Plan certification

The contractor that is responsible for implementing this BMP plan is identified in the Project Information section of this plan.

The following certification applies to all parties that are signatory to this BMP plan:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, this plan complies with the requirements of 401 KAR 5:037. By this certification, the undersigned state that the individuals signing the plan have reviewed the terms of the plan and will implement its provisions as they pertain to ground water protection.

Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

Signed _____title_____, _____
Typed or printed name[2] signature

(3) Signed _____title_____, _____
Typed or printed name[1] signature

1. Contractors Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

2. KyTC note: to be signed by the Chief District Engineer or a person designated to have the authority to sign reports by such a person (usually the resident engineer) in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601 Reference the Project Control Number (PCN) and KPDES number when one has been issued.

Sub-Contractor Certification

The following sub-contractor shall be made aware of the BMP plan and responsible for implementation of BMPs identified in this plan as follows:

Subcontractor

Name:
Address:
Address:

Phone:

The part of BMP plan this subcontractor is responsible to implement is:

I certify under penalty of law that I understand the terms and conditions of the general Kentucky Pollutant Discharge Elimination System permit that authorizes the storm water discharges, the BMP plan that has been developed to manage the quality of water to be discharged as a result of storm events associated with the construction site activity and management of non-storm water pollutant sources identified as part of this certification.

Signed _____title_____, _____
Typed or printed name[1] signature

1. Sub Contractor Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

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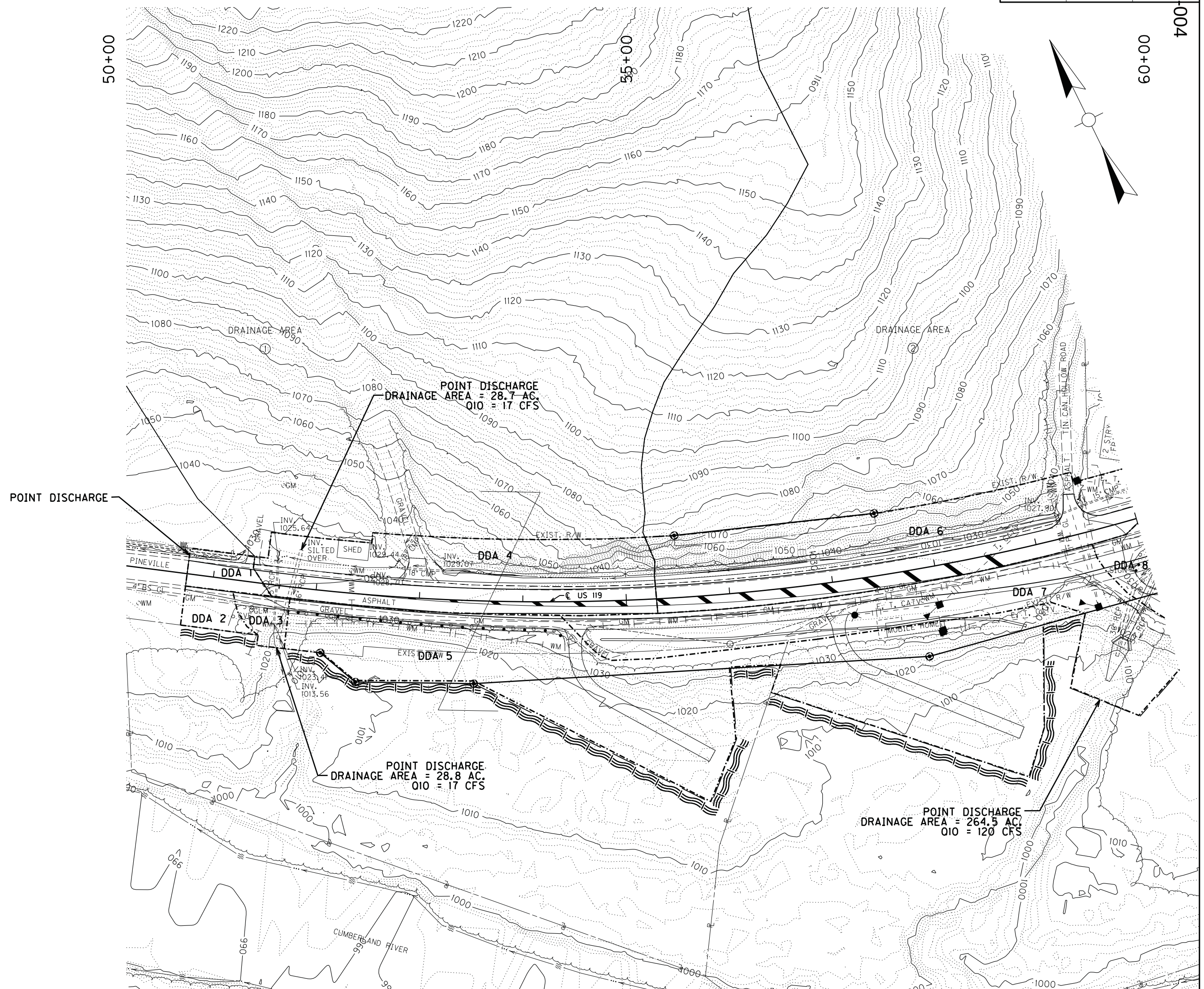
BELL	11-189.00	R39



EROSION CONTROL LEGEND

- SILT TRAP TYPE A ALTERNATE 1
- SILT TRAP TYPE A ALTERNATE 2
- SILT TRAP TYPE B
- SILT TRAP TYPE C
- SILT FENCE — SF —
- TEMPORARY SILT DITCH
- DISTURBED DRAINAGE AREA
- OVERLAND SHEET FLOW
- PROPOSED R/W
- PROPOSED EASEMENT

DISTURBED DRAINAGE AREAS

SECTION	DISTURBED AREA (ACRES)	MAXIMUM SEDIMENT VOLUME (CU FT)
DDA 1	0.06	216
DDA 2	0.05	180
DDA 3	0.05	180
DDA 4	0.60	2160
DDA 5	1.51	5436
DDA 6	0.90	3240
DDA 7	0.71	2556
DDA 8	0.16	576

SCALE: 1"=50'

US 119 SECTION B1
EROSION CONTROL SHEET
STA. 50+74.40 TO STA. 60+00

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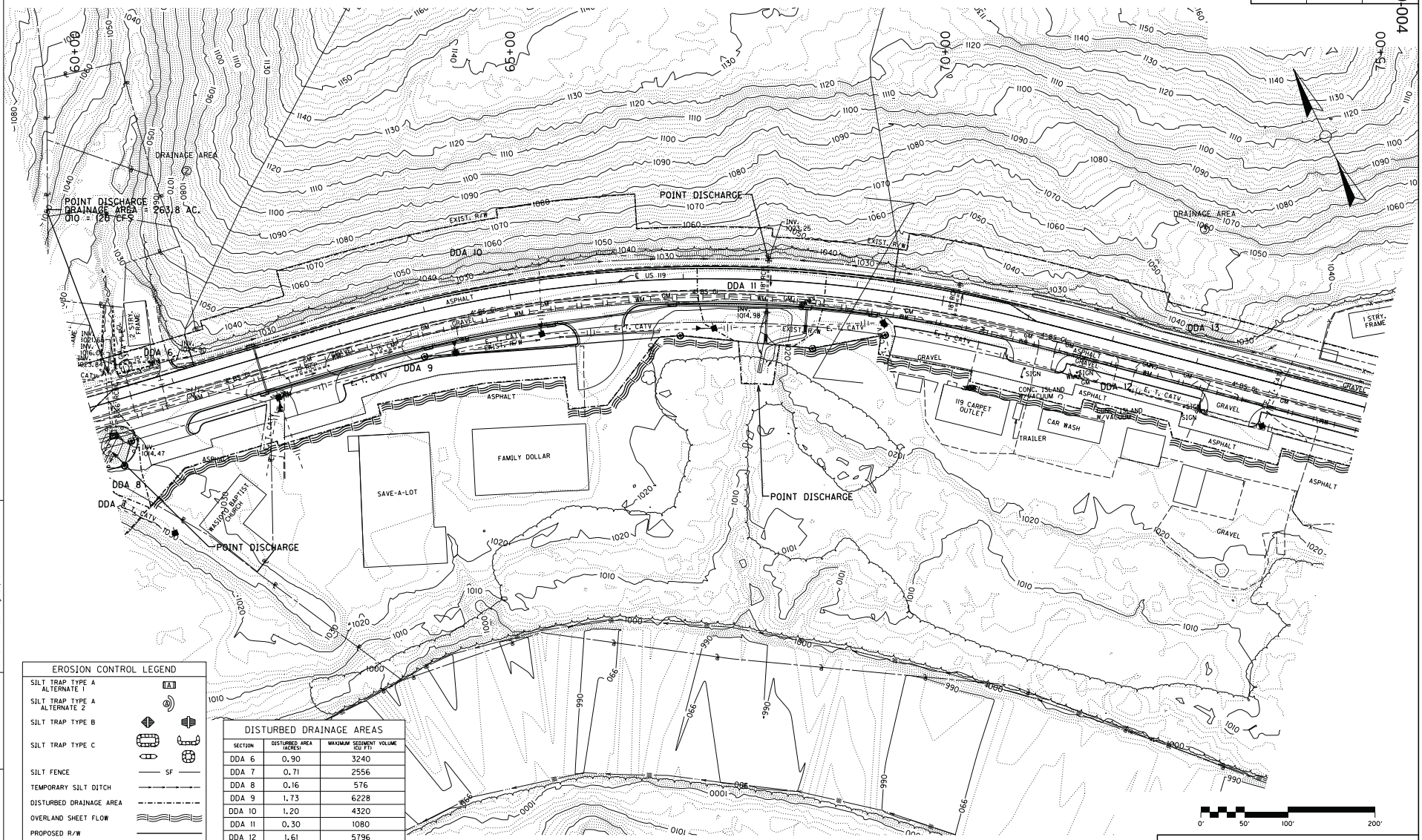

EROSION CONTROL LEGEND

- SILT TRAP TYPE A ALTERNATE 1 — A1
- SILT TRAP TYPE A ALTERNATE 2
- SILT TRAP TYPE B
- SILT TRAP TYPE C
- SILT FENCE — SF
- TEMPORARY SILT DITCH
- DISTURBED DRAINAGE AREA
- OVERLAND SHEET FLOW
- PROPOSED R/W
- PROPOSED EASEMENT

DISTURBED DRAINAGE AREAS

SECTION	DISTURBED AREA (ACRES)	MAXIMUM SEDIMENT VOLUME (CU FT)
DDA 6	0.90	3240
DDA 7	0.71	2556
DDA 8	0.16	576
DDA 9	1.73	6228
DDA 10	1.20	4320
DDA 11	0.30	1080
DDA 12	1.61	5796
DDA 13	1.34	4824

US 119 SECTION B1
EROSION CONTROL SHEET
STA. 60+00 TO STA. 75+00

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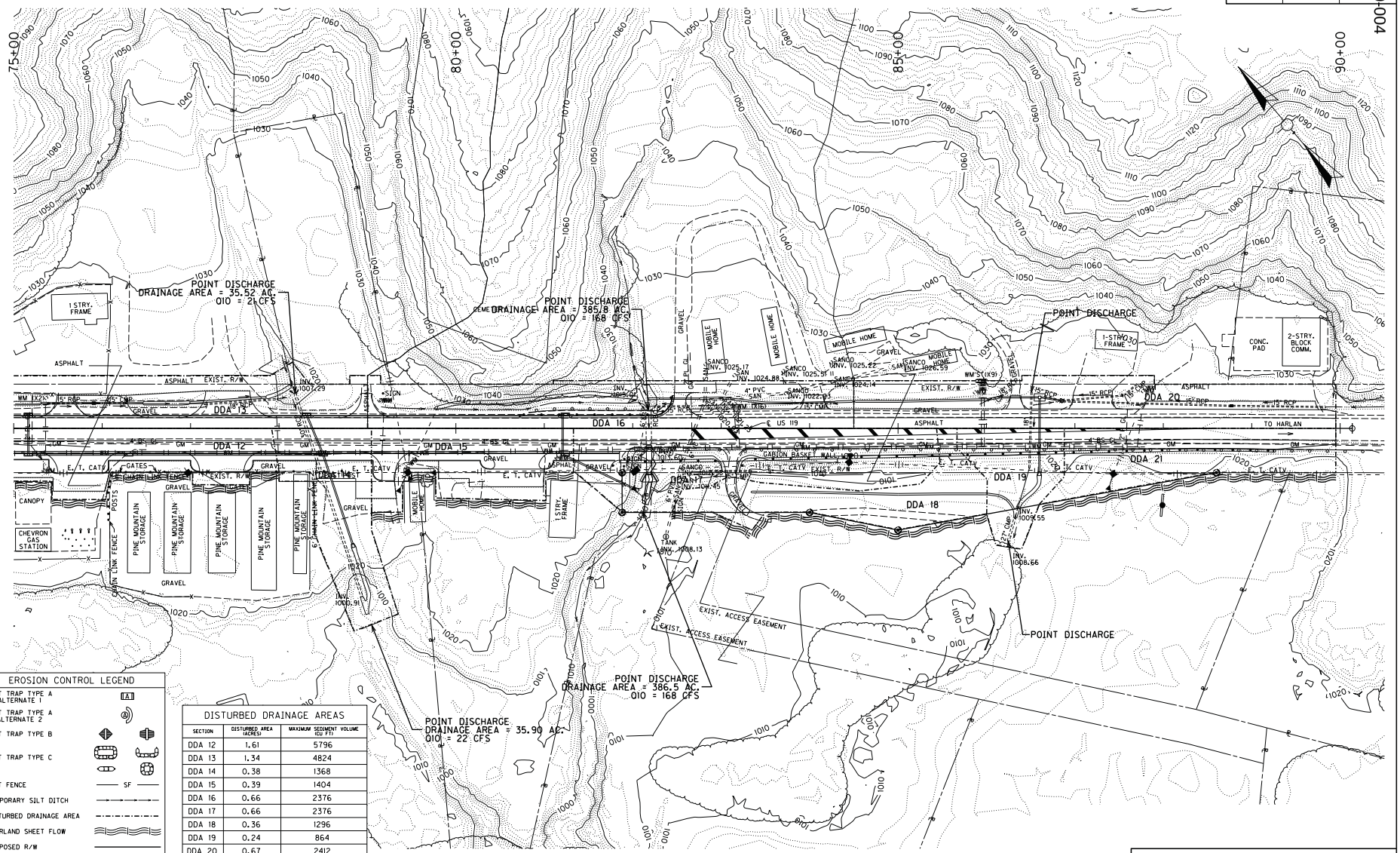

EROSION CONTROL LEGEND

- SILT TRAP TYPE A ALTERNATE 1 — A1
- SILT TRAP TYPE A ALTERNATE 2
- SILT TRAP TYPE B
- SILT TRAP TYPE C
- SILT FENCE — SF
- TEMPORARY SILT DITCH
- DISTURBED DRAINAGE AREA
- OVERLAND SHEET FLOW
- PROPOSED R/W
- PROPOSED EASEMENT

DISTURBED DRAINAGE AREAS

SECTION	DISTURBED AREA (ACRES)	MAXIMUM SEDIMENT VOLUME (CU FT)
DDA 12	1.61	5796
DDA 13	1.34	4824
DDA 14	0.38	1368
DDA 15	0.39	1404
DDA 16	0.66	2376
DDA 17	0.66	2376
DDA 18	0.36	1296
DDA 19	0.24	864
DDA 20	0.67	2412
DDA 21	0.42	1512

US 119 SECTION B1
EROSION CONTROL SHEET
STA. 75+00 TO STA. 89+95

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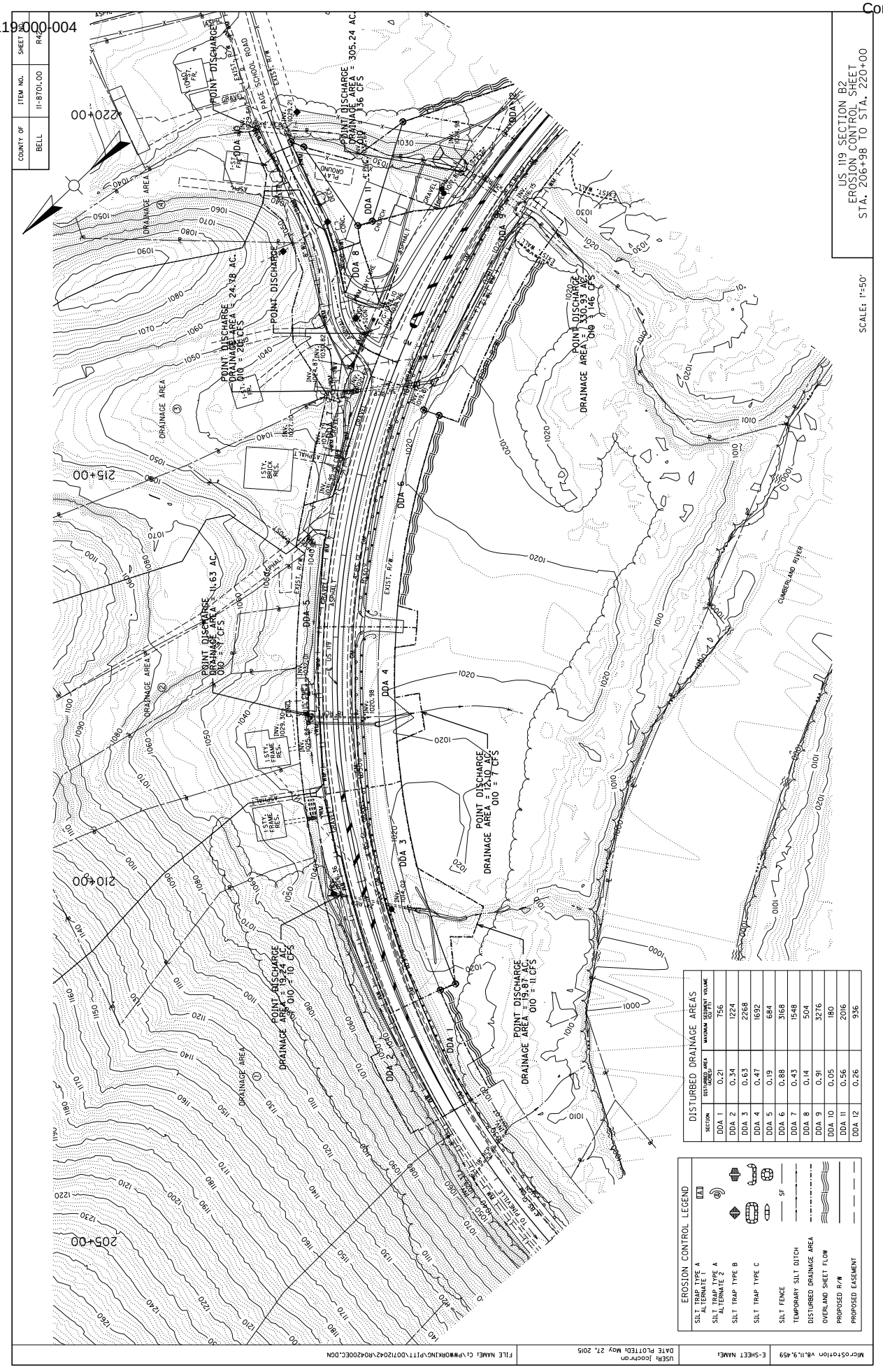
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11-8701.00
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R42
US 119 SECTION B2
EROSION CONTROL SHEET
STA. 206+98 TO STA. 220+00
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EROSION CONTROL LEGEND
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SILT TRAP TYPE A ALTERNATE 2
SILT TRAP TYPE B
SILT TRAP TYPE C
SILT FENCE
TEMPORARY SILT DITCH
DISTURBED DRAINAGE AREA
OVERLAND SHEET FLOW
PROPOSED R/W
PROPOSED EASEMENT
DISTURBED DRAINAGE AREAS
SECTION
DISTURBED AREA (ACRES)
MAXIMUM SEDIMENT VOLUME (CU. YD.)
DDA 1 0.21 756
DDA 2 0.34 1224
DDA 3 0.63 2268
DDA 4 0.47 1692
DDA 5 0.19 684
DDA 6 0.88 3168
DDA 7 0.43 1548
DDA 8 0.14 504
DDA 9 0.91 3276
DDA 10 0.05 180
DDA 11 0.56 2016
DDA 12 0.26 936
POINT DISCHARGE AREA = 19.87 AC. Q10 = 11 CFS
POINT DISCHARGE AREA = 24.78 AC. Q10 = 20 CFS
POINT DISCHARGE AREA = 11.63 AC. Q10 = 9 CFS
POINT DISCHARGE AREA = 19.24 AC. Q10 = 10 CFS
POINT DISCHARGE AREA = 12.19 AC. Q10 = 9 CFS
POINT DISCHARGE AREA = 305.24 AC. Q10 = 136 CFS
POINT DISCHARGE AREA = 330.93 AC. Q10 = 146 CFS
DRAINAGE AREA 1
DRAINAGE AREA 2
DRAINAGE AREA 3
DRAINAGE AREA 4
DDA 1
DDA 2
DDA 3
DDA 4
DDA 5
DDA 6
DDA 7
DDA 8
DDA 9
DDA 10
DDA 11
DDA 12
205+00
210+00
215+00
220+00
CUMBERLAND RIVER
Microstation V8.11.9.459
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DATE PLOTTED: May 27, 2015
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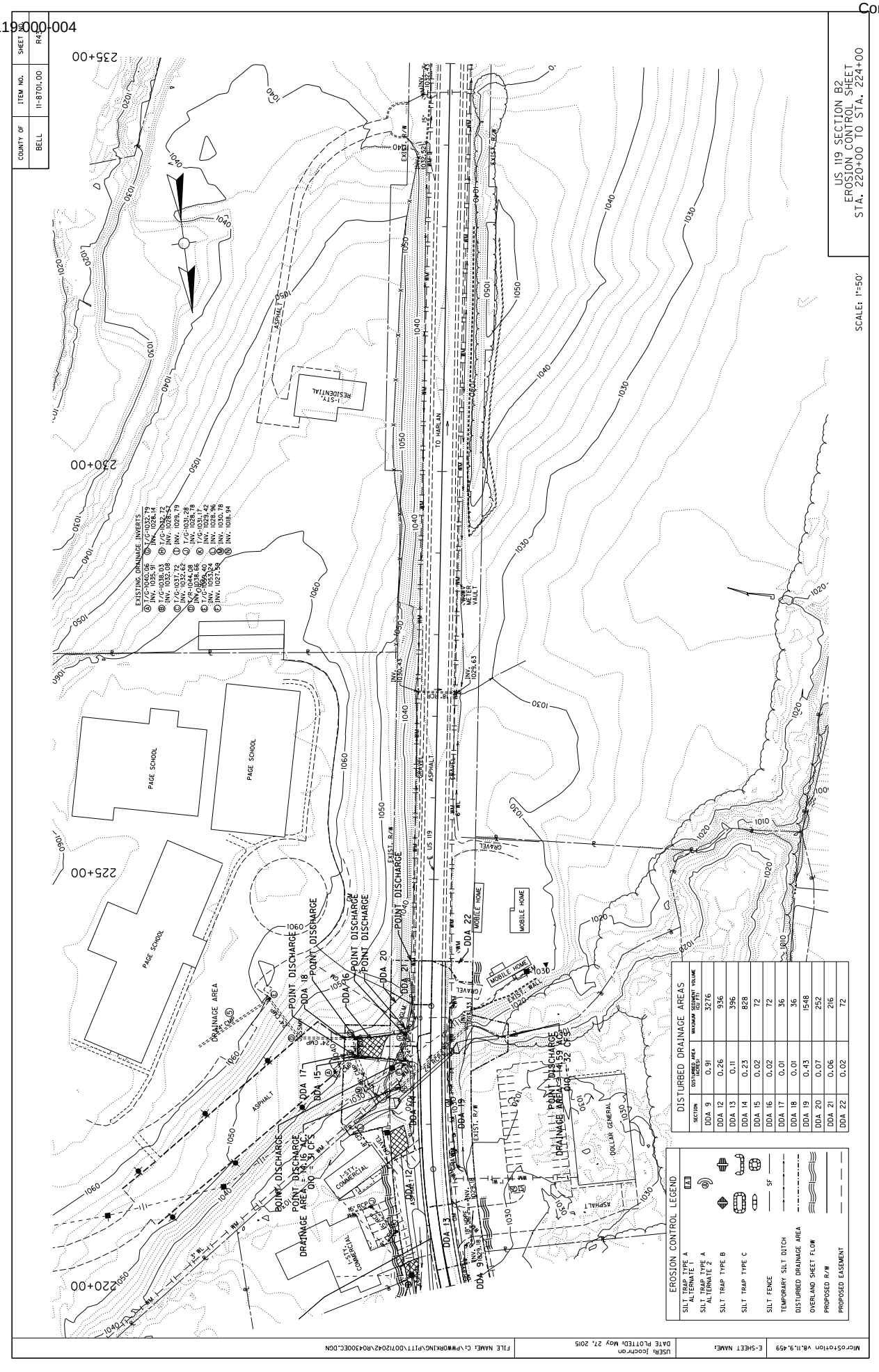
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R43
US 119 SECTION B2
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SCALE: 1"=50'
EROSION CONTROL LEGEND
SILT TRAP TYPE A
ALTERNATE I
SILT TRAP TYPE A
ALTERNATE 2
SILT TRAP TYPE B
SILT TRAP TYPE C
SILT FENCE
SF
TEMPORARY SILT DITCH
DISTURBED DRAINAGE AREA
OVERLAND SHEET FLOW
PROPOSED R/W
PROPOSED EASEMENT
DISTURBED DRAINAGE AREAS
SECTION
DISTURBED AREA (ACRES)
MAXIMUM SEDIMENT VOLUME
DDA 9 0.91 3276
DDA 12 0.26 936
DDA 13 0.11 396
DDA 14 0.23 828
DDA 15 0.02 72
DDA 16 0.02 72
DDA 17 0.01 36
DDA 18 0.01 36
DDA 19 0.43 1548
DDA 20 0.07 252
DDA 21 0.06 216
DDA 22 0.02 72
EXISTING DRAINAGE INVERTS
TO HARLAN
PAGE SCHOOL
MOBILE HOME
DOLLAR GENERAL
1-STY. RESIDENTIAL
1-STY. COMMERCIAL
POINT DISCHARGE
DRAINAGE AREA
ASPHALT
GRAVEL
EXIST. R/W
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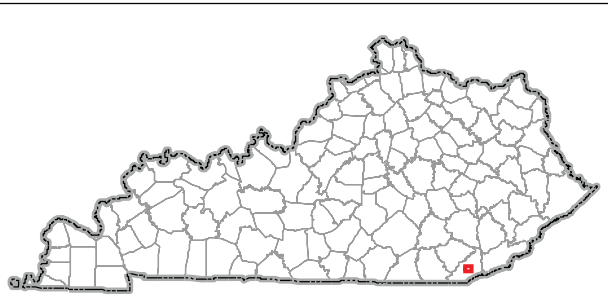
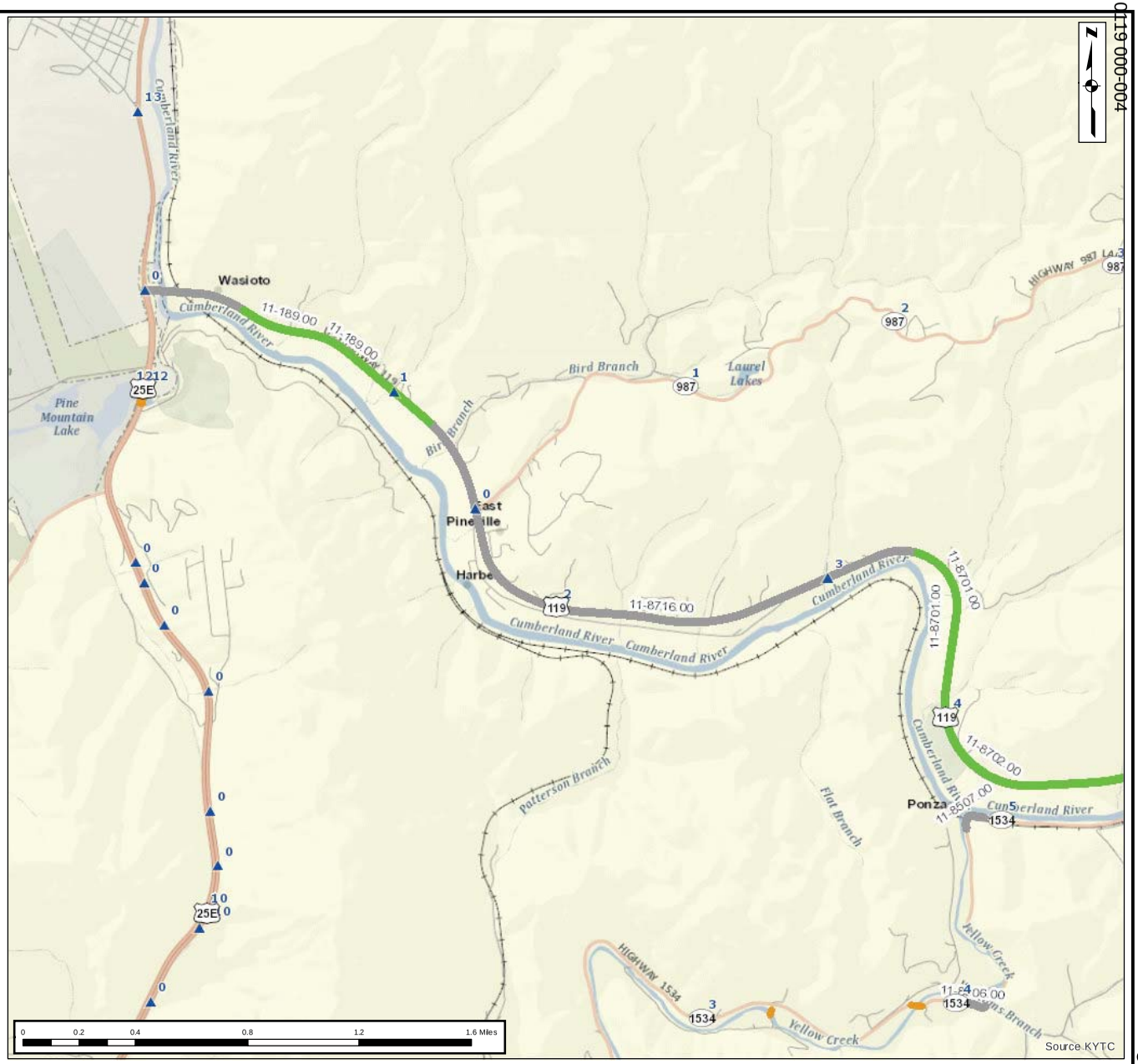
USER: Jcochran
DATE PLOTTED: May 27, 2015
E-SHEET NAME:
Microstation V8i 11.9.459

11-189.00 & 11-8701.00
Project Location Map

Date: 9/28/2015

Kentucky Transportation Cabinet
200 Mero St, Suite W-5
Frankfort, KY 40601
Phone:(502) 564-4890





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

October 2, 2015

Wesley Lyttle
KYTC District 11
603 Railroad Ave
Manchester, KY 40962

Re: KYR10 Coverage Acknowledgment
KPDES No.: KYR10J826
11-189.00 & 11-8701.00 - US 119 TWLTL & US 119 Pag
Permit Type: Construction
AI ID: 15615
Bell County, Kentucky

Dear Wesley Lyttle:

The discharges associated with the Notice of Intent you submitted have been approved for coverage under the "Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Storm Water Discharges Associated with Construction Activities (KYR100000)" master general permit. Your coverage becomes effective on the date of this letter, and will automatically terminate two years from the effective date of your coverage unless an extension is requested prior to the termination date, until the KYR100000 master general permit expires on November 30, 2019, or the Division of Water revokes coverage, whichever comes first. During this period of coverage all discharges shall comply with the conditions of the KYR100000 master general permit. This permit and links to the eNOI (and permit coverage extension) and eNOT forms can be found on our website:

http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf.

Any questions concerning the general permit and its requirements should be directed to me at (502) 564-3410.

Construction Site GPS Coordinates: 36.730556 , -83.663333
Receiving Water: Cumberland River

Sincerely,

Justina Riddick

Justina Riddick
Surface Water Permits Branch
Division of Water

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 2016.*

SUPPLEMENTAL SPECIFICATIONS

The contractor shall use the Supplemental Specifications that are effective at the time of letting. The Supplemental Specifications can be found at the following link:

http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx

1I

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

This Special Note will apply when indicated on the plans or in the proposal.

1.0 DESCRIPTION. Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

2.0 MATERIALS.

2.1 General. Use LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

2.2 Sign and Controls. All signs must:

1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
3) Provide a controller consisting of:
   a) Keyboard or keypad.
   b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
   c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
   d) Logic circuitry to control the sequence of messages and flash rate.
4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
8) Provide the driver board as part of a module. All modules are interchangeable, and have plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.
9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
11) Provide a photocell control to provide automatic dimming.

1I

12) Allow an on-off flashing sequence at an adjustable rate.
13) Provide a sight to aim the message.
14) Provide a LED display color of approximately 590 nm amber.
15) Provide a controller that is password protected.
16) Provide a security device that prevents unauthorized individuals from accessing the controller.
17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

/KEEP/RIGHT/⇒⇒⇒/
/KEEP/LEFT/⇐⇐⇐/
/LOOSE/GRAVEL/AHEAD/
/RD WORK/NEXT/**MILES/
/TWO WAY/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/
/REDUCE/SPEED/**MPH/
/BRIDGE/WORK/***0 FT/
/MAX/SPEED/**MPH/
/SURVEY/PARTY/AHEAD/
/MIN/SPEED/**MPH/
/ICY/BRIDGE/AHEAD/ /ONE LANE/BRIDGE/AHEAD/
/ROUGH/ROAD/AHEAD/
/MERGING/TRAFFIC/AHEAD/
/NEXT/***/MILES/
/HEAVY/TRAFFIC/AHEAD/
/SPEED/LIMIT/**MPH/
/BUMP/AHEAD/
/TWO/WAY/TRAFFIC/

*Insert numerals as directed by the Engineer.
Add other messages during the project when required by the Engineer.

2.3 Power.

1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

3.0 CONSTRUCTION. Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will not assume ownership of these signs.

4.0 MEASUREMENT. The final quantity of Variable Message Sign will be

1I

the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

5.0 PAYMENT. The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

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SPECIAL NOTE FOR ROCK BLASTING

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. This work consists of fracturing rock and constructing stable final rock cut faces using presplit blasting and production blasting techniques.

2.0 MATERIALS. Deliver, store, and use explosives according to the manufacturer's recommendations and applicable laws. Do not use explosives outside their recommended use date. Verify date of manufacture and provide copies of the technical data sheets (TDS) and material safety data sheets (MSDS) to the Engineer. Explosives and initiating devices include, but are not necessarily limited to, dynamite and other high explosives, slurries, water gels, emulsions, blasting agents, initiating explosives, detonators, blasting caps, and detonating cord.

3.0 CONSTRUCTION. Furnish copies or other proof of all-applicable permits and licenses. Comply with Federal, State, and local regulations on the purchase, transportation, storage, and use of explosive material. Regulations include but are not limited to the following:

1) KRS 351.310 through 351.9901.
2) 805 KAR 4:005 through 4:165
3) Applicable rules and regulations issued by the Office of Mine Safety and Licensing.
4) Safety and health. OSHA, 29 CFR Part 1926, Subpart U.
5) Storage, security, and accountability. Bureau of Alcohol, Tobacco, and Firearms (BATF), 27 CFR Part 181.
6) Shipment. DOT, 49 CFR Parts 171-179, 390-397.

3.1 Blaster-in-Charge. Designate in writing a blaster-in-charge and any proposed alternates for the position. Submit documentation showing the blaster-in-charge, and alternates, have a valid Kentucky blaster's license. Ensure the blaster-in-charge or approved alternate is present at all times during blasting operations.

3.2 **Blasting Plans.** Blasting plans and reports are for quality control and record keeping purposes. Blasting reports are to be signed by the blaster-in-charge or the alternate blaster-in-charge. The general review and acceptance of blasting plans does not relieve the Contractor of the responsibility whatsoever for conformance to regulations or for obtaining the required results. All blasting plans shall be submitted to the Engineer. The Engineer will be responsible for submitting the plan to the Central Office Division of Construction and the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at the following address: 2 Hudson Hollow, Frankfort, Kentucky, 40601.

A) General Blasting Plan. Submit a general blasting plan for acceptance at least 15 working days before drilling operations begin. Include, as a minimum, the following safety and procedural details:

1) Working procedures and safety precautions for storing, transporting, handling, detonating explosives. Include direction on pre and post blast audible procedures, methods of addressing misfires, and methods of addressing inclement weather, including lightning.
2) Proposed product selection for both dry and wet holes. Furnish Manufacturer's TDS and MSDS for all explosives, primers, initiators, and other blasting devices.
3) Proposed initiation and delay methods.
4) Proposed format for providing all the required information for the site specific blasting shot reports.

B) Preblast Meeting. Prior to drilling operations, conduct a preblast meeting to discuss safety and traffic control issues and any site specific conditions that will need to be addressed. Ensure, at a minimum, that the Engineer or lead inspector, Superintendent, blaster-in-charge, and all personnel involved in the blasting operation are present. Site specific conditions include blast techniques; communication procedures; contingency plans and equipment for dealing with errant blast material. The conditions of the General Blasting plan will be discussed at this meeting. Record all revisions and additions made to the blasting plan and obtain written concurrence by the blaster-in-charge. Provide a copy of the signed blast plan to the Engineer along with the sign in sheet from the preblast meeting.

3.3 Preblast Condition Survey and Vibration Monitoring and Control. Before blasting, arrange for a preblast condition survey of nearby buildings, structures, or utilities, within 500 feet of the blast or that could be at risk from blasting damage. Provide the Engineer a listing of all properties surveyed and any owners denying entry or failing to respond. Notify the Engineer and occupants of buildings at risk at least 24 hours before blasting.

Limit ground vibrations and airblast to levels that will not exceed limits of 805 KAR 4:005 through 4:165. More restrictive levels may be specified in the Contract.

Size all blast designs based on vibration, distance to nearest building or utility, blast site geometry, atmospheric conditions and other factors. Ground vibrations are to be controlled according to the blasting standards and scaled distance formulas in 805 KAR 4:020 or by the use of seismographs as allowed in 805 KAR 4:030. The Department will require seismographs at the nearest allowable location to the protected site when blasting occurs within 500 feet of buildings, structures, or utilities.

3.4 Blasting. Drill and blast at the designated slope lines according to the blasting plan. Perform presplitting to obtain smooth faces in the rock and shale formations. Perform the presplitting before blasting and excavating the interior portion of the specified cross section at any location. The Department may allow blasting for fall benches and haul roads prior to presplitting when blasting is a sufficient distance from the final slope and results are satisfactory to the Engineer. Use the types of explosives and blasting accessories necessary to obtain the required results.

Free blast holes of obstructions for their entire depth. Place charges without caving the blast hole walls. Stem the upper portion of all blast holes with dry sand or other granular material passing the 3/8-inch sieve. Dry drill cuttings are acceptable for stemming when blasts are more than 800 feet from the nearest dwelling.

Stop traffic during blasting operations when blasting near any road and ensure traffic does not pass through the Danger Zone. The blaster-in-charge will define the Danger Zone prior to each blast. Ensure traffic is stopped outside the Danger Zone, and in no case within 800 feet of the blast location.

Following a blast, stop work in the entire blast area, and check for misfires before allowing worker to return to excavate the rock.

Remove or stabilize all cut face rock that is loose, hanging, or potentially dangerous. Leave minor irregularities or surface variations in place if they do not create a hazard. Drill the next lift only after the cleanup work and stabilization work is complete.

When blasting operations cause fracturing of the final rock face, repair or stabilize it in an approved manner at no cost to the Department.

Halt blasting operations in areas where any of the following occur:

1) Slopes are unstable;
2) Slopes exceed tolerances or overhangs are created;
3) Backslope damage occurs;
4) Safety of the public is jeopardized;
5) Property or natural features are endangered;
6) Fly rock is generated; or
7) Excessive ground or airblast vibrations occur in an area where damage to buildings, structures, or utilities is possible.
8) The Engineer determines that materials have become unsuitable for blasting

Blasting operations may continue at a reasonable distance from the problem area or in areas where the problems do not exist. Make the necessary modifications to the blasting operations and perform a test blast to demonstrate resolution of the problem.

A) Drill Logs. Maintain a layout drawing designating hole numbers with corresponding drill logs and provide a copy of this information to the blaster prior to loading the hole. Ensure the individual hole logs completed by the driller(s) show their name; date drilled; total depth drilled; and depths and descriptions of significant conditions encountered during drilling that may affect loading such as water, voids, changes in rock type.

B) Presplitting. Conduct presplitting operations in conformance with Subsection 204.03.04 of the Standard Specifications for Road and Bridge Construction.

3.5 Shot Report. Maintain all shot reports on site for review by the Department. Within one day after a blast, complete a shot report according to the record keeping requirements of 805 KAR 4:050. Include all results from airblast and seismograph monitoring.

3.6 Unacceptable Blasting. When unacceptable blasting occurs, the Department will halt all blasting operations. Blasting will not resume until the Department completes its investigation and all concerns are addressed. A blast is unacceptable when it results in fragmentation beyond the final rock face, fly rock, excessive vibration or airblast, overbreak, damage to the final rock face or overhang. Assume the cost for all resulting damages to private and public property and hold the Department harmless.

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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

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

LABOR AND WAGE REQUIREMENTS
APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS

I. APPLICATION

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

3. A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

II. NONDISCRIMINATION OF EMPLOYEES

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 (forty and above); 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 forty (40) and over. 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, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, 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 forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

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 (7) provides:

No present or former public servant shall, within six (6) months 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, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of 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, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure 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, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, 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, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

Kentucky Equal Employment Opportunity Act of 1978

The requirements of the Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) shall apply to this Contract. The apparent low Bidder will be required to submit EEO forms to the Division of Construction Procurement, which will then forward to the Finance and Administration Cabinet for review and approval. No award will become effective until all forms are submitted and EEO/CC has certified compliance. The required EEO forms are as follows:

- EEO-1: Employer Information Report
- Affidavit of Intent to Comply
- Employee Data Sheet
- Subcontractor Report

These forms are available on the Finance and Administration's web page under ***Vendor Information, Standard Attachments and General Terms*** at the following address: **https://www.eProcurement.ky.gov**.

Bidders currently certified as being in compliance by the Finance and Administration Cabinet may submit a copy of their approval letter in lieu of the referenced EEO forms.

For questions or assistance please contact the Finance and Administration Cabinet by email at **finance.contractcompliance@ky.gov** or by phone at 502-564-2874.

EMPLOYEE RIGHTS
UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

FEDERAL MINIMUM WAGE
$7.25 PER HOUR
BEGINNING JULY 24, 2009

OVERTIME PAY

At least 1½ times your regular rate of pay for all hours worked over 40 in a workweek.

CHILD LABOR

An employee must be at least **16** years old to work in most non-farm jobs and at least **18** to work in non-farm jobs declared hazardous by the Secretary of Labor.

Youths **14** and **15** years old may work outside school hours in various non-manufacturing, non-mining, non-hazardous jobs under the following conditions:

No more than

- **3** hours on a school day or **18** hours in a school week;
- **8** hours on a non-school day or **40** hours in a non-school week.

Also, work may not begin before **7 a.m.** or end after **7 p.m.**, except from June 1 through Labor Day, when evening hours are extended to **9 p.m.** Different rules apply in agricultural employment.

TIP CREDIT

Employers of "tipped employees" must pay a cash wage of at least $2.13 per hour if they claim a tip credit against their minimum wage obligation. If an employee's tips combined with the employer's cash wage of at least $2.13 per hour do not equal the minimum hourly wage, the employer must make up the difference. Certain other conditions must also be met.

ENFORCEMENT

The Department of Labor may recover back wages either administratively or through court action, for the employees that have been underpaid in violation of the law. Violations may result in civil or criminal action.

Employers may be assessed civil money penalties of up to $1,100 for each willful or repeated violation of the minimum wage or overtime pay provisions of the law and up to $11,000 for each employee who is the subject of a violation of the Act's child labor provisions. In addition, a civil money penalty of up to $50,000 may be assessed for each child labor violation that causes the death or serious injury of any minor employee, and such assessments may be doubled, up to $100,000, when the violations are determined to be willful or repeated. The law also prohibits discriminating against or discharging workers who file a complaint or participate in any proceeding under the Act.

ADDITIONAL INFORMATION

- Certain occupations and establishments are exempt from the minimum wage and/or overtime pay provisions.
- Special provisions apply to workers in American Samoa and the Commonwealth of the Northern Mariana Islands.
- Some state laws provide greater employee protections; employers must comply with both.
- The law requires employers to display this poster where employees can readily see it.
- Employees under 20 years of age may be paid $4.25 per hour during their first 90 consecutive calendar days of employment with an employer.
- Certain full-time students, student learners, apprentices, and workers with disabilities may be paid less than the minimum wage under special certificates issued by the Department of Labor.

For additional information:

1-866-4-USWAGE

(1-866-487-9243) TTY: 1-877-889-5627

U.S. Wage and Hour Division

WWW.WAGEHOUR.DOL.GOV

U.S. Department of Labor | Wage and Hour Division

WHD Publication 1088 (Revised July 2009)

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

171025

Report Date 6/30/17

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	10,591.70	TON		$	
0020	00100		ASPHALT SEAL AGGREGATE	30.90	TON		$	
0030	00103		ASPHALT SEAL COAT	3.70	TON		$	
0040	00190		LEVELING & WEDGING PG64-22	2,195.00	TON		$	
0050	00214		CL3 ASPH BASE 1.00D PG64-22	8,763.80	TON		$	
0060	00301		CL2 ASPH SURF 0.38D PG64-22	2,385.80	TON		$	
0070	00388		CL3 ASPH SURF 0.38B PG64-22	10,068.90	TON		$	
0080	02084		JPC PAVEMENT-8 IN	28.00	SQYD		$	
0090	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		$	
0100	02677		ASPHALT PAVE MILLING & TEXTURING	320.00	TON		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0110	00078		CRUSHED AGGREGATE SIZE NO 2	2,500.00	TON		$	
0120	01310		REMOVE PIPE	622.00	LF		$	
0130	01810		STANDARD CURB AND GUTTER	4,290.00	LF		$	
0140	01875		STANDARD HEADER CURB	1,450.00	LF		$	
0150	01890		ISLAND HEADER CURB TYPE 1	24.00	LF		$	
0160	01904		REMOVE CURB	66.00	LF		$	
0170	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	55.00	EACH		$	
0180	02014		BARRICADE-TYPE III	8.00	EACH		$	
0190	02091		REMOVE PAVEMENT	202.00	SQYD		$	
0200	02159		TEMP DITCH	5,930.00	LF		$	
0210	02200		ROADWAY EXCAVATION	19,463.00	CUYD		$	
0220	02242		WATER	540.00	MGAL		$	
0230	02351		GUARDRAIL-STEEL W BEAM-S FACE	2,770.50	LF		$	
0240	02360		GUARDRAIL TERMINAL SECTION NO 1	10.00	EACH		$	
0250	02367		GUARDRAIL END TREATMENT TYPE 1	1.00	EACH		$	
0260	02381		REMOVE GUARDRAIL	3,075.00	LF		$	
0270	02429		RIGHT-OF-WAY MONUMENT TYPE 1	27.00	EACH		$	
0280	02432		WITNESS POST	6.00	EACH		$	
0290	02483		CHANNEL LINING CLASS II	214.00	TON		$	
0300	02484		CHANNEL LINING CLASS III	1,262.00	TON		$	
0310	02545		CLEARING AND GRUBBING 20 ACRES	1.00	LS		$	
0320	02562		TEMPORARY SIGNS	676.00	SQFT		$	
0330	02585		EDGE KEY	101.80	LF		$	
0340	02598		FABRIC-GEOTEXTILE TYPE III	7,500.00	SQYD		$	
0350	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	10,710.00	SQYD	$2.00	$	$21,420.00
0360	02625		REMOVE HEADWALL	4.00	EACH		$	
0370	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0380	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		$	
0390	02690		SAFELOADING	39.00	CUYD		$	
0400	02696		SHOULDER RUMBLE STRIPS	76,244.00	LF		$	
0410	02701		TEMP SILT FENCE	5,930.00	LF		$	

171025

PROPOSAL BID ITEMS

Report Date 6/30/17

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0420	02703		SILT TRAP TYPE A	43.00	EACH		$	
0430	02704		SILT TRAP TYPE B	43.00	EACH		$	
0440	02705		SILT TRAP TYPE C	43.00	EACH		$	
0450	02706		CLEAN SILT TRAP TYPE A	129.00	EACH		$	
0460	02707		CLEAN SILT TRAP TYPE B	129.00	EACH		$	
0470	02708		CLEAN SILT TRAP TYPE C	129.00	EACH		$	
0480	02726		STAKING	1.00	LS		$	
0490	02775		ARROW PANEL	1.00	EACH		$	
0500	03262		CLEAN PIPE STRUCTURE	2.00	EACH		$	
0510	05950		EROSION CONTROL BLANKET	60,469.00	SQYD		$	
0520	05952		TEMP MULCH	2,880.00	SQYD		$	
0530	05953		TEMP SEEDING AND PROTECTION	2,880.00	SQYD		$	
0540	05963		INITIAL FERTILIZER	3.00	TON		$	
0550	05964		20-10-10 FERTILIZER	4.00	TON		$	
0560	05990		SODDING	1,807.00	SQYD		$	
0570	05992		AGRICULTURAL LIMESTONE	36.00	TON		$	
0580	06510		PAVE STRIPING-TEMP PAINT-4 IN	110,930.00	LF		$	
0590	06514		PAVE STRIPING-PERM PAINT-4 IN	173,560.00	LF		$	
0600	06546		PAVE STRIPING-THERMO-12 IN W	64.00	LF		$	
0610	06568		PAVE MARKING-THERMO STOP BAR-24IN	37.00	LF		$	
0620	06569		PAVE MARKING-THERMO CROSS-HATCH	16,593.00	SQFT		$	
0630	06573		PAVE MARKING-THERMO STR ARROW	6.00	EACH		$	
0640	06574		PAVE MARKING-THERMO CURV ARROW	33.00	EACH		$	
0650	06578		PAVE MARKING-THERMO MERGE ARROW	2.00	EACH		$	
0660	06591		PAVEMENT MARKER TYPE V-BY	1,246.00	EACH		$	
0670	06600		REMOVE PAVEMENT MARKER TYPE V	421.00	EACH		$	
0680	10020NS		FUEL ADJUSTMENT	46,057.00	DOLL	$1.00	$	$46,057.00
0690	10030NS		ASPHALT ADJUSTMENT	91,478.00	DOLL	$1.00	$	$91,478.00
0700	20430ED		SAW CUT	11,252.00	LF		$	
0710	20458ES403		CENTERLINE RUMBLE STRIPS	40,108.00	LF		$	
0720	21417ES717		PAVE MARK THERMO CONE CAP-SOLID YELLOW	44.00	SQFT		$	
0730	21802EN		G/R STEEL W BEAM-S FACE (7 FT POST)	431.00	LF		$	
0740	22664EN		WATER BLASTING EXISTING STRIPE	16,869.00	LF		$	
0750	23274EN11F		TURF REINFORCEMENT MAT 1	273.00	SQYD		$	
0760	24779EC		INTELLIGENT COMPACTION FOR SOIL	14,296.00	CUYD		$	
0770	24780EC		INTELLIGENT COMPACTION FOR AGGREGATE	10,560.90	TON		$	
0780	24781EC		INTELLIGENT COMPACTION FOR ASPHALT	23,397.90	TON		$	
0790	24814EC		PIPELINE INSPECTION	2,286.00	LF		$	
0800	24891EC		PAVE MOUNT INFRARED TEMP EQUIPMENT	581,502.10	SF		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0810	00440		ENTRANCE PIPE-15 IN	322.00	LF		$	
0820	00441		ENTRANCE PIPE-18 IN	46.00	LF		$	
0830	00443		ENTRANCE PIPE-24 IN	87.00	LF		$	
0840	00462		CULVERT PIPE-18 IN	87.00	LF		$	

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PROPOSAL BID ITEMS

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0850	00464		CULVERT PIPE-24 IN	104.00	LF		$	
0860	00469		CULVERT PIPE-42 IN	90.00	LF		$	
0870	00521		STORM SEWER PIPE-15 IN	94.00	LF		$	
0880	00522		STORM SEWER PIPE-18 IN	1,602.00	LF		$	
0890	00524		STORM SEWER PIPE-24 IN	4.00	LF		$	
0900	00528		STORM SEWER PIPE-36 IN	27.00	LF		$	
0910	00534		STORM SEWER PIPE-72 IN	93.00	LF		$	
0920	01204		PIPE CULVERT HEADWALL-18 IN	3.00	EACH		$	
0930	01208		PIPE CULVERT HEADWALL-24 IN	2.00	EACH		$	
0940	01212		PIPE CULVERT HEADWALL-36 IN	1.00	EACH		$	
0950	01214		PIPE CULVERT HEADWALL-42 IN	2.00	EACH		$	
0960	01433		SLOPED BOX OUTLET TYPE 1-18 IN	2.00	EACH		$	
0970	01450		S & F BOX INLET-OUTLET-18 IN	1.00	EACH		$	
0980	01451		S & F BOX INLET-OUTLET-24 IN	1.00	EACH		$	
0990	01456		CURB BOX INLET TYPE A	14.00	EACH		$	
1000	01493		DROP BOX INLET TYPE 2	1.00	EACH		$	
1010	01496		DROP BOX INLET TYPE 3	2.00	EACH		$	
1020	01544		DROP BOX INLET TYPE 11	2.00	EACH		$	
1030	01641		JUNCTION BOX-15 IN	1.00	EACH		$	
1040	01642		JUNCTION BOX-18 IN	1.00	EACH		$	
1050	01645		JUNCTION BOX-36 IN	2.00	EACH		$	
1060	01767		MANHOLE TYPE C	1.00	EACH		$	
1070	24025EC		PIPE CULVERT HEADWALL-72 IN	1.00	EACH		$	

Section: 0004 - BRIDGE-CULVERT-27096

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1080	02625		REMOVE HEADWALL	1.00	EACH		$	
1090	08002		STRUCTURE EXCAV-SOLID ROCK	16.00	CUYD		$	
1100	08003		FOUNDATION PREPARATION	1.00	LS		$	
1110	08100		CONCRETE-CLASS A	38.40	CUYD		$	
1120	08150		STEEL REINFORCEMENT	3,628.00	LB		$	

Section: 0005 - BRIDGE-CULVERT-27257

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1130	02625		REMOVE HEADWALL	1.00	EACH		$	
1140	08002		STRUCTURE EXCAV-SOLID ROCK	20.00	CUYD		$	
1150	08003		FOUNDATION PREPARATION	1.00	LS		$	
1160	08100		CONCRETE-CLASS A	45.40	CUYD		$	
1170	08150		STEEL REINFORCEMENT	6,144.00	LB		$	

Section: 0006 - WATERLINE - SECTION B1

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1180	14003		W CAP EXISTING MAIN	2.00	EACH		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1190	14005		W ENCASEMENT CONCRETE	55.00	LF		$	
1200	14012		W ENCASEMENT STEEL OPEN CUT RANGE 1	170.00	LF		$	
1210	14013		W ENCASEMENT STEEL OPEN CUT RANGE 2	110.00	LF		$	
1220	14019		W FIRE HYDRANT ASSEMBLY	1.00	EACH		$	
1230	14021		W FIRE HYDRANT REMOVE	1.00	EACH		$	
1240	14022		W FLUSH HYDRANT ASSEMBLY	3.00	EACH		$	
1250	14028		W METER 3/4 INCH	23.00	EACH		$	
1260	14067		W PIPE POLYETHYLENE/PLASTIC 03 INCH	119.00	LF		$	
1270	14070		W PIPE POLYETHYLENE/PLASTIC 08 INCH	3,967.00	LF		$	
1280	14073		W PIPE POLYETHYLENE/PLASTIC SPECIAL	690.00	LF		$	
1290	14089		W TAPPING SLEEVE AND VALVE SIZE 1	1.00	EACH		$	
1300	14095		W TIE-IN 08 INCH	2.00	EACH		$	
1310	14101		W TIE-IN SPECIAL	49.00	EACH		$	
1320	14102		W VALVE 02 INCH	2.00	EACH		$	
1330	14103		W VALVE 03 INCH	1.00	EACH		$	
1340	14106		W VALVE 08 INCH	2.00	EACH		$	
1350	14148		W SERV COPPER LONG SIDE 3/4 IN	1.00	EACH		$	
1360	14152		W SERV COPPER SHORT SIDE 3/4 IN	48.00	EACH		$	

Section: 0007 - WATERLINE - SECTION B2

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1370	14003		W CAP EXISTING MAIN (3-IN)	1.00	EACH		$	
1380	14003		W CAP EXISTING MAIN (6-IN)	1.00	EACH		$	
1390	14003		W CAP EXISTING MAIN (8-IN)	1.00	EACH		$	
1400	14005		W ENCASEMENT CONCRETE	140.00	LF		$	
1410	14014		W ENCASEMENT STEEL OPEN CUT RANGE 3	40.00	LF		$	
1420	14015		W ENCASEMENT STEEL OPEN CUT RANGE 4	100.00	LF		$	
1430	14025		W METER 1 INCH	2.00	EACH		$	
1440	14028		W METER 3/4 INCH	9.00	EACH		$	
1450	14069		W PIPE POLYETHYLENE/PLASTIC 06 INCH	52.00	LF		$	
1460	14070		W PIPE POLYETHYLENE/PLASTIC 08 INCH	2,163.00	LF		$	
1470	14089		W TAPPING SLEEVE AND VALVE SIZE 1	1.00	EACH		$	
1480	14092		W TIE-IN 03 INCH	1.00	EACH		$	
1490	14095		W TIE-IN 08 INCH	2.00	EACH		$	
1500	14101		W TIE-IN SPECIAL (RECONNECT 1-IN WATER SERVICE)	2.00	EACH		$	
1510	14101		W TIE-IN SPECIAL (RECONNECT 3/4-IN WATER SERVICE)	9.00	EACH		$	
1520	14105		W VALVE 06 INCH	1.00	EACH		$	
1530	14106		W VALVE 08 INCH	2.00	EACH		$	
1540	14148		W SERV COPPER LONG SIDE 3/4 IN	1.00	EACH		$	
1550	14149		W SERV COPPER SHORT SIDE 1 IN	2.00	EACH		$	
1560	14152		W SERV COPPER SHORT SIDE 3/4 IN	8.00	EACH		$	

Section: 0008 - DEMOBILIZATION &/OR MOBILIZATION

PROPOSAL BID ITEMS

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Report Date 6/30/17

Section: 0000 DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1570	02568		MOBILIZATION	1.00	LS		$	
1580	02569		DEMOBILIZATION	1.00	LS		$	